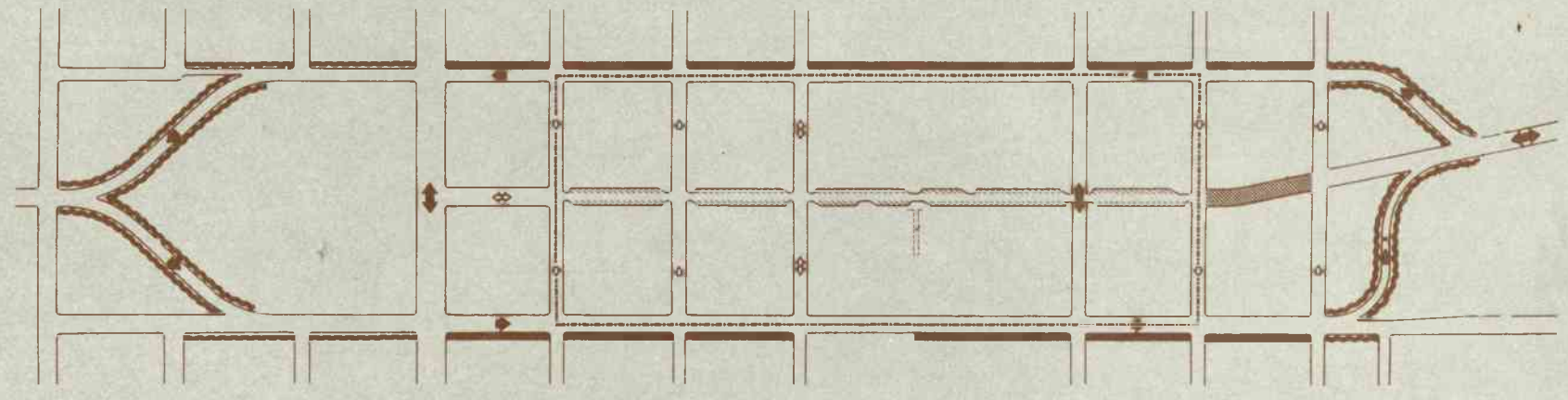
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A Parking Program for Downtown Terre Haute

Prepared for the City of Terre Haute, Ind., by Barton-Aschman Associates, Chicago, Ill.

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December, 1964

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RECOMMENDATIONS AND SUMMARY

RECOMMENDATIONS

IT IS recommended that a parking program be implemented as soon as practicable to develop approximately 400 offstreet spaces in two new facilities: a 321-space sloping floor garage on the north side of Ohio Street between Sixth and Seventh Streets and a 76-space lot at Cherry and Fourth Streets.

In order to attain a higher level of enforcement, it is recommended that two additional meter maids be employed.

Because the prime curb meters should be used by patrons and other persons parking for short durations, it is recommended that the present ordinance be revised to prohibit "meter feeding."

It is recommended that active measures to taken to strengthen the validation program.

To enhance pedestrian amenities, it is recommended that the arcade be improved as detailed in this report.

SUMMARY OF CHAPTERS

Chapter 1: Introduction

1. The present study has been authorized as a result of the city's interest in improving the Central Business District. Purpose of the study is to appraise the parking system, identify its deficiencies, and recommend a program to meet parking needs.

2. In recognition of the very close relationship between traffic movement and parking in the Central Business District, city officials have authorized a parallel study to improve traffic movement. Work for the present report and the companion report, A Traffic Improvement Program for Downtown Terre Haute, has been carried out concurrently so that each program complements the other.

3. The procedure followed in carrying out this study included the compilation of extensive field data, review of previously published pertinent reports, conferences with city officials and business leaders, and the preparation of alternate parking programs.

4. Much of the data in this report has been adjusted for season. Three levels of parking activity are analyzed and discussed: the July study period which is somewhat below average, the "average" condition, and the season peak.

Chapter 2: Nature of Present Parking System

1. Within the 60-block study area--bounded by Chestnut Street on the north, Ninth and 9½ Streets on the

east, Poplar Street on the south, and First Street on the west--there are 5,484 parking spaces with approximately 36 percent located on the street, including 1,330 metered and 639 unmetered spaces.

2. All of the 3,515 offstreet spaces have been developed by private enterprise and include four types: commercial facilities, commercial lots providing validation privileges with certain business establishments, patron lots, and employee lots.

3. During July, the number of parkers in the downtown area builds up to a daily maximum at mid-afternoon when approximately 4,055 parkers were observed. When these data are adjusted to a seasonal peak condition (such as would precede Christmas or Easter or on special sale days), it is estimated that the number of parkers would increase to approximately 4,860.

4. Shoppers rely largely on metered curb space, with 46 percent parking in these facilities during the daily peak. Only 20 percent of the patrons utilize commercial lots, 13 percent use commercial validation facilities, and 16 percent use patron lots. Business parkers showed a similar pattern of parking space usage. Employees, on the other hand, rely principally on commercial facilities.

5. The trip origins of parkers disclose that 59 percent of all parkers come from the City of Terre Haute, an additional nine percent from areas within five miles of the city, nine percent from the balance of Vigo County, and 17 percent from points beyond Vigo County. Although 17 percent of all parkers come from beyond Vigo County, one-quarter of the patrons visiting downtown Terre Haute come from points beyond Vigo County. This indicates that the trade area for retail and business patronage extends out far beyond the city limits.

6. The implementation of a plan to divert traffic from Wabash Avenue will require peak-hour parking prohibitions on Ohio and Cherry Streets. No additional parking prohibitions in the CBD appear to be necessary at the present time.

7. In order to attain a higher level of enforcement for the large number of meters it would be worthwhile to employ two additional meter maids. This suggested increase in personnel for parking meter enforcement would more nearly match desirable standards that have been successfully employed in other communities.

8. Because the prime curb meters should properly be used by shoppers and persons making short duration business trips to the area, it is recommended that the ordinance controlling parking at prime curb meters be revised to prohibit "meter feeding."

9. The elimination of "meter feeding" can make approximately 70 convenient curb meter spaces available to patrons. At present, long-term employee parkers usurp the spaces.

10. Parking regulations controlling the use of free and metered curb space in the fringe area of the downtown area are considered adequate and, therefore, no modifications are recommended.

11. The annual gross revenue produced by the curb meters has amounted to approximately $90,000 per year for the past two years. Gross revenues over the past 15 years have fluctuated from a high of approximately $124,000 to the present level. The major factor responsible for the decline in meter revenues appears to be the need for additional enforcement to discourage parking at expired meters. If the recommendation for two additional meter maids is implemented, it is believed that the resulting increased enforcement can largely remedy this problem.

12. A few years ago a "Park and Shop" validation program was begun in downtown Terre Haute. On an average day, approximately 530 patrons from the 15 participating business establishments use validation parking.

13. It is suggested that active measures be pursued to strengthen the validation program. Of the many benefits that can accrue from a successful valida-

tion program, perhaps the most important is the association of free parking with the downtown area in the minds of patrons.

Chapter 3: Parking Needs

1. The number of parking spaces required to serve downtown Terre Haute in future years will depend upon the level of economic activity in the area and the mode of travel of persons going to the area.

2. Inasmuch as a specific economic study is not available for use in predicting future downtown activity, it appears that a prudent course of action would be to improve the parking system to handle existing parking needs. The improvement program should have sufficient flexibility so that the system may be readily expanded as needs indicate in future years.

3. Approximately half of all persons parked in downtown Terre Haute during the mid-afternoon peak walk to the eight-block core after parking.

4. The estimated shortage in parking space, as of 1964, is placed at 226 spaces in July, 300 spaces during an average season, and 670 spaces during the seasonal peak. These shortages will become more acute when the recommended curb parking prohibitions are implemented. When an allowance is made for the potential loss of curb parking space, the estimated shortages become 246 in July, 330 during an average season, and 710 during the season peak.

5. Parking shortages relate to patron parking. At the present time, there is no severe shortage in employee, or long-term, parking.

Chapter 4: Concept for Downtown Development

1. There are certain elements of the present downtown land-use pattern that should be preserved and strengthened. On the other hand, the form of the Central Business District suffers from two major shortcomings which should be corrected through planned changes as soon as possible: first, Wabash Avenue carries a high volume of traffic not related to it; second, the district is dispersed over many

blocks and is interspersed with land-uses not related to normal CBD activities.

2. Ideally, the Central Business District should be compact so that it would be convenient for patrons to walk from one retail store or related function to another. The eight-block area defined as the retail core and bounded by Cherry, Ohio, Fourth, and Eighth Streets has the potential of an ideally compact retail unit.

3. Principals to guide future development within the retail core include the following:

   Remove through traffic from Wabash Avenue.

   Discourage any land-use activity along Wabash Avenue which would increase vehicular traffic.

   Encourage the location of additional retail, service, and office functions within the core area.

   Encourage the development of parking to serve the district and locate it generally in the area between Cherry and the alley one-half block south, and between Ohio and the alley one-half block north. Access to the parking should be provided from the one-way streets of Cherry and Ohio.

   Take steps to enhance the pedestrian amenities within the retail core.

4. To provide a framework for planning a parking system, a development concept for the downtown area has been defined. The concept is generally consistent with other planning being pursued for the Central Business District. The plan would enhance amenities within the eight-block retail core where primary emphasis should be given to retail, service, and office facilities.

5. The area lying generally between First and Third Streets from Poplar to Chestnut is currently proposed for urban renewal. Although a number of land-use possibilities exist for the area, primary retail functions should not be located there since this would tend to dilute and weaken the retail core.

6. Pedestrian amenities can be improved in two general ways: first, by indirect measures such as the re-routing of traffic to reduce pedestrian conflicts and the concentration of land-uses into a compact pattern to reduce walking distances; second, by direct measures to provide visual appeal.

7. The basic idea of the existing arcade is excellent and can provide the framework for a truly attractive pedestrian facility in the heart of the retail core. It is suggested that the arcade be improved through the construction of new paving, the addition of ground cover planting, planters with shrubs or trees, a redesigned newsstand, and a rustic bridge over the transformer grillwork.

8. In the future, after the necessary steps have been taken to divert the major flow of traffic from Wabash Avenue onto Cherry and Ohio, the opportunity will exist to make Wabash Avenue a pedestrian-emphasis street. At that time, when the requirements for traffic movement will be relatively low, it would be entirely feasible to replace the existing parallel parking along the street with angle parking. At the same time, a logical corollary improvement would be crosswalk extensions to reduce the street crossing distance.

Chapter 5: Elements of a Parking Program

1. A sound parking program should:

Be flexible.

Serve the entire CBD.

Be related to the traffic improvements.

Add enough patron space to satisfy much of the seasonal peak demand.

Be located adjacent to or in the outer edges of the retail core.

Provide between 330 and 600 patron spaces.

Preferably be developed by private enterprise.

Be developed by municipal action if private enterprise fails to act promptly.

2. The total number of spaces may be supplied from two sources: by making available additional curb spaces and through construction of new offstreet facilities.

3. Approximately 400 spaces should be provided in new offstreet facilities.

4. The recommended parking program includes a 321-space sloping-floor garage on the north side of Ohio between Sixth and Seventh Streets and a 76-space lot at Cherry and Fourth Streets. Development cost is estimated at $926,000.

5. The recommended program is estimated to be entirely feasible and could be developed by either private capital or municipal action, using only the revenues produced by the new facilities.

6. Based on estimated revenues, and financing the program over 30 years at a 4¼ percent rate of interest, it is estimated that the annual surplus would amount to $25,300 and that the debt coverage ratio would be 2.03.

7. The recommended program should be implemented as soon as practicable, hopefully within 12 to 18 months. In the meantime, steps should be taken to open up the 70 prime curb meters for exclusive patron use.

8. A conservative approach is recommended--that is, provide enough parking to meet present needs and do not provide, at this time, parking facilities that far exceed needs. This approach is suggested because:

   If private enterprise is to develop the new facilities, it will require a reasonable return on investment, and this precludes an excess supply of parking space.

   If the municipality develops the program, an excess supply would obligate all or most of its

revenue bonding power and leave little flexibility or reserve for unforeseen needs during future years.

An excess supply would tend to eliminate the marginal commercial operators and increase the need for municipally financed parking to maintain adequate facilities.

9. In the future,as the need for additional patron parking may be demonstrated, the next project would be a garage on the opposite side of the retail core.

10. Future employee parking should be located outside the core. In general, such space should be single level as long as land costs are below the cost of decking a multiple-level structure.

11. The Wiley High School property could be developed as a future employee lot. However, the probable acquisition cost appears to be too high. In the event that part of the site could be obtained at approximately $3.00 per square foot, development as an employee lot containing 100 to 200 spaces spaces would become more desirable.

1
INTRODUCTION

PURPOSE AND SCOPE

CITY OFFICIALS and business leaders in Terre Haute are vitally interested in strengthening the attractiveness and economic position of the Central Business District. In recent years, considerable attention has been given to this matter and several plans have been implemented. Evidence of previous efforts to improve the amenities of the Central Business District may be found in the pedestrian arcade and related mid-block crosswalks constructed between Sixth and Seventh Streets; the implementation by private business establishments of a parking validation program to serve patrons; and the considerable thought devoted to improving the parking system.

This study has been authorized in line with the city's desire to improve the Central Business District as a whole and parking in particular. Its purpose is to examine the parking system, estimate future conditions, and identify current and future parking needs. With this appraisal as a base, the report is to present recommendations for a parking development program. Specifically, the program is to include the location and number of parking spaces to be provided and details regarding the development and financing.

In recognition of the very close relationship existing between traffic movement and parking in the

Central Business District, city officials have authorized a related study of traffic movement. The parking study and the companion study, A Traffic Improvement Program for Downtown Terre Haute, have been carried out concurrently, and each improvement program has been designed to complement the other.

Although the specific objective of each study has been the improvement of downtown parking and traffic movement, a more basic objective has been the enhancement and strengthening of the area. Because the Central Business District represents the concentration of a substantial proportion of the municipal tax base, it is in the best interest of the entire community to have this area as strong as possible. A sound downtown area can assure that property values will be maintained and increased, thereby benefitting the entire community. It is apparent that many factors control the present and potential economic success of downtown Terre Haute. Among these determinants are ease of motor vehicle access and circulation within the area; adequacy of the parking system; the attractiveness and convenience of pedestrian circulation within the area; the physical appearance of the area, including public facilities, stores, and office buildings; the variety of merchandise and services offered within the area; and intangibles such as the attitudes of persons toward the downtown area. The companion report on traffic movement deals with recommendations and techniques to

improve access to, and circulation within, the area. The parking report presents a program designed to meet parking needs. In addition, each study gives maximum attention, within its defined scope, to the enhancement of pedestrian amenities.

In brief, the two studies authorized by the City of Terre Haute go beyond the limitations of a routine parking study which merely appraises the parking system and presents recommendations for modifications. The studies treat traffic movement and parking development as interrelated functions and give major attention to pedestrian amenities.

STUDY PROCEDURE

The initial step common to both studies was the definition of the study area. In each case an area of approximately 60 blocks was selected to include the Central Business District and the adjacent fringe area. This larger area was studied because curb parking in the adjacent fringe area is related to the Central Business District. The study boundary was Chestnut Street on the north, Ninth and 9½ Streets on the east, Poplar Street on the south, and First Street on the west.

The procedure followed in carrying out the study included the collection of field data, a review of previously published pertinent reports, conferences with city officials and business leaders, analysis of the data, and the preparation of alternate parking programs. Following the review of alternate parking programs, specific recommendations were developed.

The field work carried out in the summer of 1964 included the following:

1. Inventory. All parking space within the Central Business District was cataloged with respect to location, type of facility, number of available spaces, parking fee or rate structure, and probable degree of permanency.

2. Occupancy Studies. In this phase of the study, an accurate count was made of the number of vehicles parked in each parking space throughout the hours of a typical week. In this way, it was possible to determine the fluctuation in parking that occurs by hour-of-day and also by day-of-week in relation to type of facility.

3. Parker Characteristics. After identifying the time of maximum parking through the preceding steps, a detailed study was made of the peak-hour parking conditions. Parker questionnaires, analyzed by means of an electronic computer, provided information on such factors as location of parking, trip purpose, walking destination, number of blocks walked, and duration of stay.

Following the analysis of this field work, facts were developed to determine present parking shortages and surpluses. However, this data reflected conditions during the summer of 1964 and, therefore, needed to be adjusted to compensate for seasonal variations. In order to develop a basis for adjusting the study data and determine relative parking conditions throughout the year, information was assembled from two sources: the monthly distribution of parking meter revenues and the monthly fluctuation in retail sales in the Central Business District. Approximately 20 business establishments, including major department stores, provided information on the relative level of retail sales for each month throughout the previous year and the months preceding the period of field data collection in 1964.

Much of the applicable data in this report has been adjusted for seasonal fluctuations. In general, three levels of parking activity are analyzed and discussed in the report: the July study period, which is somewhat below average, the "average" condition, and the seasonal peak.

After data were adjusted for seasonal fluctuations, parking needs were defined with respect to location and type; i.e., whether the shortage applied to patrons or employees. Next, a series of alternate sites was selected whose potential development could satisfy parking shortages. Probable market values of the sites were obtained and on this basis several alternates were eliminated because the estimated acquisition cost in relation to location was considered to be unattractive.

Three of the alternate sites, however, were considered to be practical for development, and an economic analysis was prepared for them. Included in the economic analysis were an estimate of the total capitalized development cost, an estimate of annual usage and revenues, an estimate of maintenance and operating costs, and, from these factors, an estimate of financial feasibility.

Three potential parking facilities were combined into two alternate programs. Much of the economic analysis contained in this report would be applicable for the development of the proposed parking facilities by either private enterprise or municipal action.

2

NATURE OF PRESENT PARKING SYSTEM

INVENTORY OF PARKING SPACE

WITHIN THE 60-block study area containing the Central Business District there are approximately 5,484 parking spaces. (See Table 1.) On-street facilities comprise approximately 36 percent of the available space, including 1,330 curb meters and 639 unmetered spaces.

The inventory of existing on-street parking facilities is shown in Figure 1. As noted on the map, 856 of the more conveniently located curb meters operate at five cents per hour with time limits of two hours or less. Somewhat more distant from the retail core, principally along Walnut and Mulberry, there are 474 three-hour meters where the charge is 3-1/3 cents per hour (three hours for 10 cents). Free curb space is located beyond the three-hour meters.

All of the offstreet facilities have been developed by private enterprise and, as noted in Table 1 and in Figure 2, represent four types: (1) commercial lots providing validation privileges offered by certain stores, (2) commercial facilities, (3) patron lots, and (4) employee lots. The commercial facilities, including commercial validation, catering to the general public constitute 53 percent or 1,870 of the 3,515 offstreet spaces. The patron and employee lots are not available to the general public but are restricted to parkers going to a particular building or business establishment.

It is somewhat misleading to consider only the total number of parking spaces provided within the study area. Many of the available spaces are located some distance from the principal destinations of parkers. Although the downtown study area comprises 60 blocks, 50 percent of all persons parking downtown during the daily peak walked to the eight-block retail core. The retail core as defined in this report (see Figures 1 and 2) is bounded by Cherry, Ohio, Fourth, and Eighth Streets. Within the retail core, there are only 937 available parking spaces, including three customer lots containing 63 spaces.

A summary of rates charged in commercial lots is shown in Table 2. The rates in commercial facilities catering to hourly parkers range from a low of 15 cents per hour to a high of 50 cents. As noted, there are 1,015 parking spaces in commercial facilities that accept hourly parkers. In addition, many of the commercial facilities have rate schedules designed to attract all-day parkers. Table 2 shows that the 819 spaces available for all-day parking require a fee ranging from a low of 25 cents to a high of 65 cents in most facilities; one facility has a charge of $1.50 per day. Some facilities cater predominantly to monthly parkers and others accept monthly parkers.

Table 1
INVENTORY OF PARKING SPACE

Type of Parking	Number of Spaces Core[1]	Balance	Total
Offstreet			
Commercial Validation	197	265	462
Commercial	325	1,086	1,411
Patron	63	816	879
Employee	-	763	763
Subtotal, Offstreet:	585	2,930	3,515
On-street			
12 min. Curb meters, 5¢/hr	2	10	12
1 Hr. Curb meters, 5¢/hr	112	36	148
2 Hr. Curb meters, 5¢/hr	238	458	696
3 Hr. Curb meters, 3 1/3¢/hr	-	474	474
Subtotal, Curb Meters:	352	978	1,330[2]
Free Curb			
Subtotal, On-street:	-	639	639
	352	1,617	1,969
Total:	937	4,547	5,484

[1] Core is bounded by Cherry, Ohio, Fourth, and Eighth Streets.

[2] There are 45 additional curb meters outside study area.

Table 2
RATES CHARGED IN COMMERCIAL FACILITIES

Number of Facilities	Capacity	Fee
Facilities Catering to Hourly Parking (First hour charge shown)		
4	182	.15
4	378	.20
4	345	.25
2	60	.35
1	50	.50
Total:	1,015	
Facilities Accepting All-Day Parkers (All-day charge shown)		
1	29	.25
6	540	.35
2	115	.50
1	85	.65
1	50	1.50
Total:	819	
Facilities Accepting Monthly Parkers (Monthly Charge shown)		
1	90	4.00
2	45	6.00
2	80	7.00
1	100	7.50
1	116	8.50
1	215	10.00
1	50	15.00
Total:	696	

Note: Many lots accept hourly, daily, and monthly parkers. When duplicated facilities are removed, there are eight lots with 644 spaces that cater only to daily parkers and three lots with 105 spaces catering only to monthly parkers.

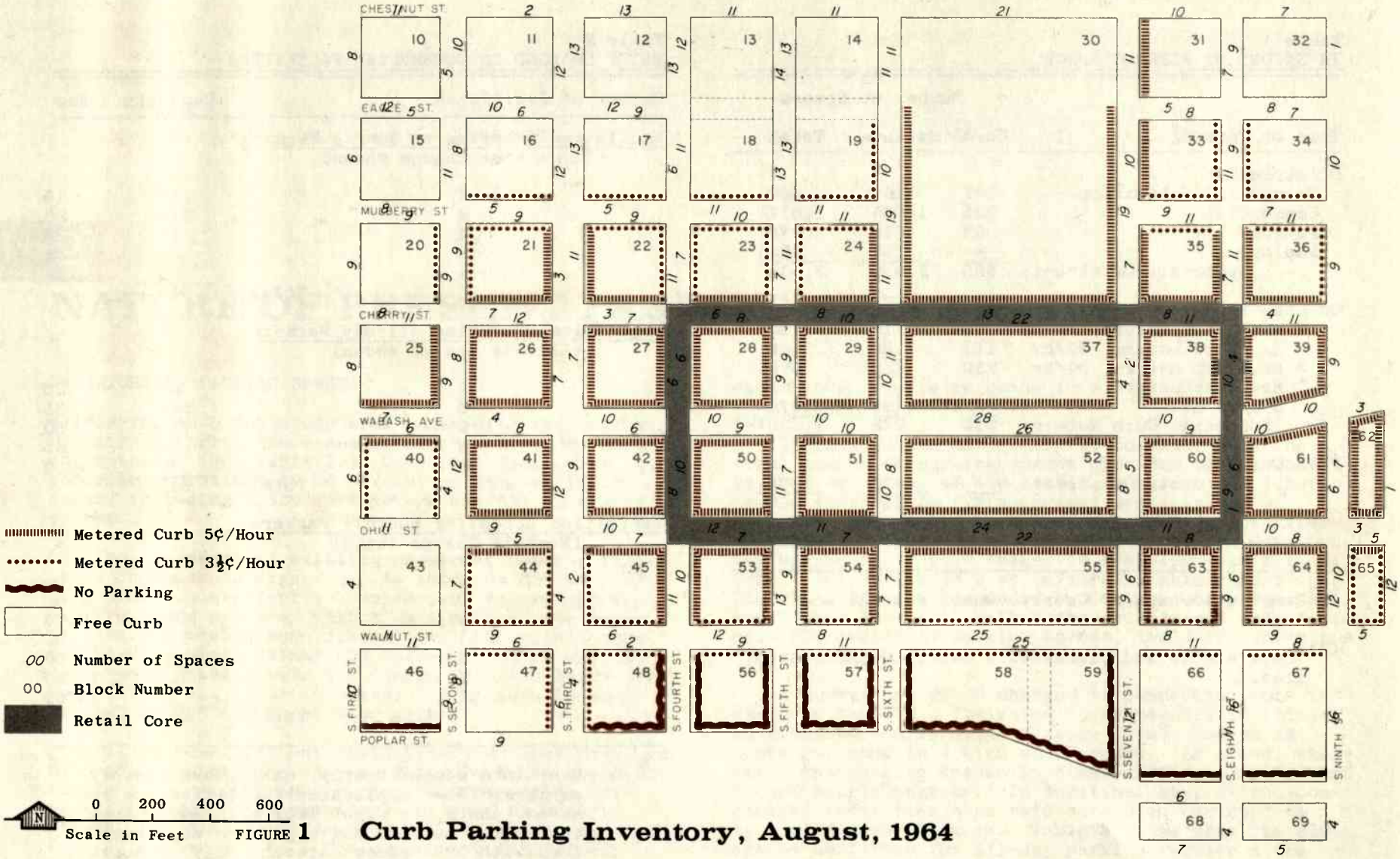


FIGURE 1

Curb Parking Inventory, August, 1964

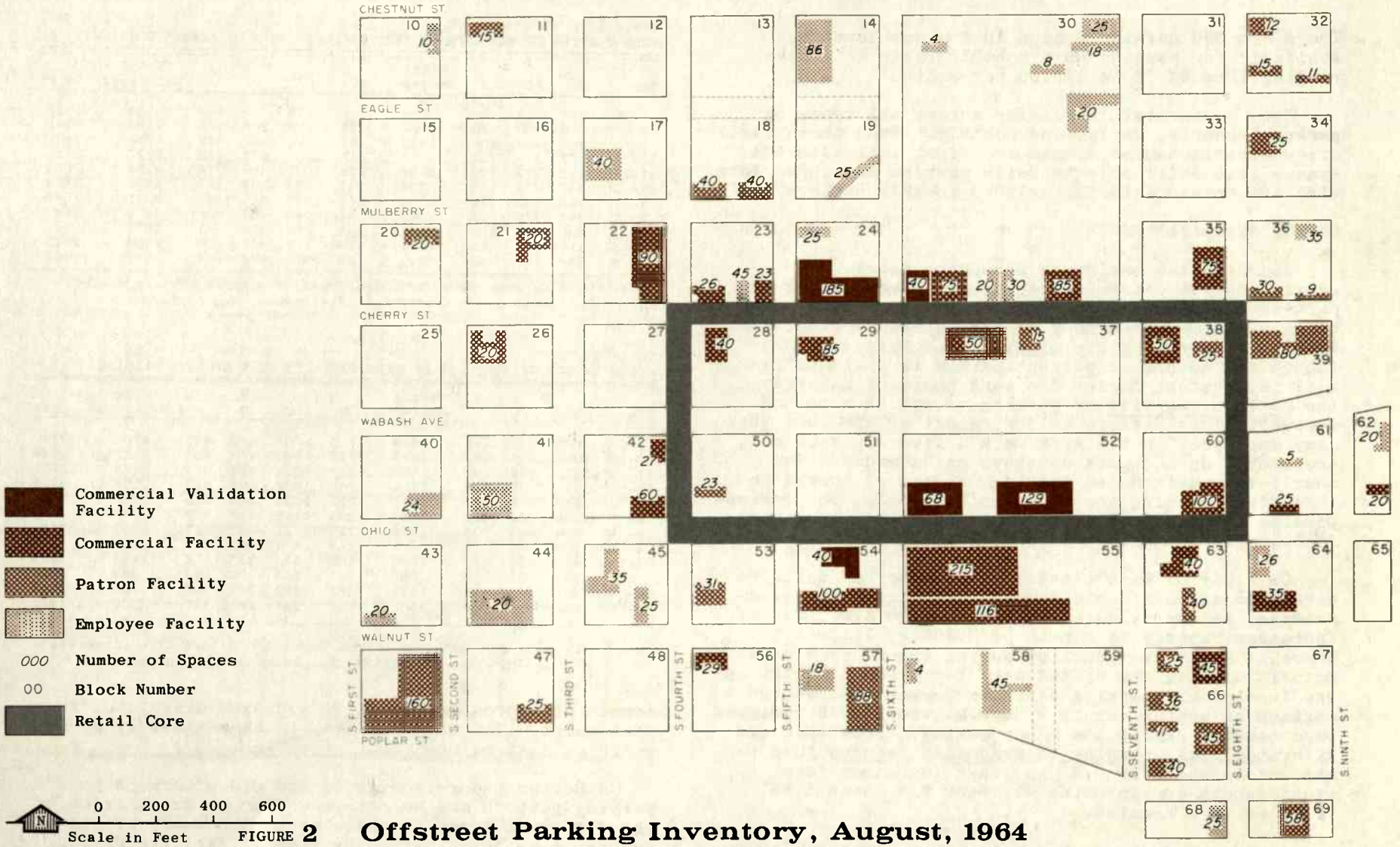


FIGURE 2 **Offstreet Parking Inventory, August, 1964**

There are 696 parking spaces in the downtown area available for parking on a monthly basis at a cost ranging from $4.00 to $15.00 per month.

Many commercial facilities accept all types of parkers--hourly, daily, and monthly. When these facilities are discounted, there are eight lots with 644 spaces that cater only to daily parkers and three lots with 105 spaces catering only to monthly parkers.

USE OF AVAILABLE SPACE

An extensive series of occupancy checks was carried out to determine the hourly fluctuations in parking throughout a typical week. Three daily patterns exist: the weekday of late store closing, the weekday of normal store closing, and Saturday. Although the number of patrons parked in the downtown area is greatest during the peak hours of Saturday, the maximum quantity of parking occurs on a normal weekday. This pattern is the result of the fact that many employees in the area work a five-day week and, therefore, do not park downtown on Saturday. The hourly fluctuations in parking on days of normal and late store closing are shown in Figure 3. The corresponding distribution of this parking by type of facility is summarized in Tables 3 and 4.

On a day of late closing, the number of vehicles parked in all available space, including public and private, is approximately 3,160 at 9:00 A.M., and it increases rapidly to a peak of 3,800 by 11:30 A.M. There is a slight reduction during the lunch hour when motorists drive out of the area for lunch. Following the lunch hour, parking again increases and reaches a maximum at approximately 2:30 P.M. when 4,055 vehicles were counted during the study period. From this mid-afternoon peak, parking is gradually reduced to a minimum around 5:30 P.M. and then increases to an evening peak at approximately 7:30 P.M. when 1,961 vehicles were counted.

A similar pattern, but one with a somewhat lower maximum, occurs on a typical weekday when stores close at the regular hour. The pattern of Saturday parking differs from a weekday in that the peak for the day occurs at approximately 11:30 A.M. and diminishes from that point. The Saturday peak is approximately 2,800 vehicles just before noon. (See Table 5.)

Table 3
ACCUMULATION OF VEHICLES BY TYPE FACILITY (DAY OF NORMAL CLOSING)

Time	MC	FC	A	Total Onstreet	CV	C	P	E	Total Offstreet	Total
7- 8	317	292	39	648	4	125	76	180	385	1033
8- 9	670	459	78	1207	71	429	258	476	1234	2441
9-10	908	496	109	1513	98	776	400	482	1756	3269
10-11	1037	475	103	1615	217	1004	473	433	2127	3742
11-12	1010	472	102	1584	273	1061	479	375	2188	3772
12- 1	982	452	120	1554	241	1057	388	450	2136	3690
1- 2	956	452	122	1530	265	1035	466	447	2213	3743
2- 3	1047	470	95	1612	292	1083	451	448	2274	3886
3- 4	929	449	106	1484	262	989	443	383	2077	3561
4- 5	796	381	94	1271	158	729	419	358	1664	2935
5- 6	646	273	64	983	62	525	270	164	1021	2004

Note: MC - Metered Curb; FC - Free Curb; A - Alley; CV - Commercial Validation; C - Commercial; P - Patron; E - Employee.

Table 4
ACCUMULATION OF VEHICLES BY TYPE FACILITY (DAY OF LATE CLOSING)

Time	MC	FC	A	Total Onstreet	CV	C	P	E	Total Offstreet	Total
9-10	865	458	115	1438	113	761	363	485	1722	3160
10-11	1037	475	103	1615	217	1004	473	433	2127	3742
11-12	1010	472	102	1584	273	1061	479	375	2188	3772
12- 1	982	452	120	1554	241	1057	388	450	2136	3690
1- 2	1043	426	132	1601	287	1025	545	395	2252	3853
2- 3	1080	468	140	1688	291	1155	418	503	2367	4055
3- 4	989	405	124	1518	278	1131	399	453	2261	3779
4- 5	990	344	95	1429	218	874	487	408	1987	3416
5- 6	670	238	92	1000	160	554	239	171	1124	2124
6- 7	697	201	59	957	147	434	159	124	864	1821
7- 8	834	198	79	1111	167	429	147	107	850	1961
8- 9	800	184	69	1053	111	391	181	137	820	1873

Note: MC - Metered Curb; FC - Free Curb; A - Alley; CV - Commercial Validation; C - Commercial; P - Patron; E - Employee.

A better understanding of the mid-afternoon peak parking pattern may be obtained from an examination of the different types of space use. A summary of the number of vehicles parked by type of facility during the daily peak is given in Table 6. The table also indicates that metered curb and commercial parking facilities are used nearly to saturation even during

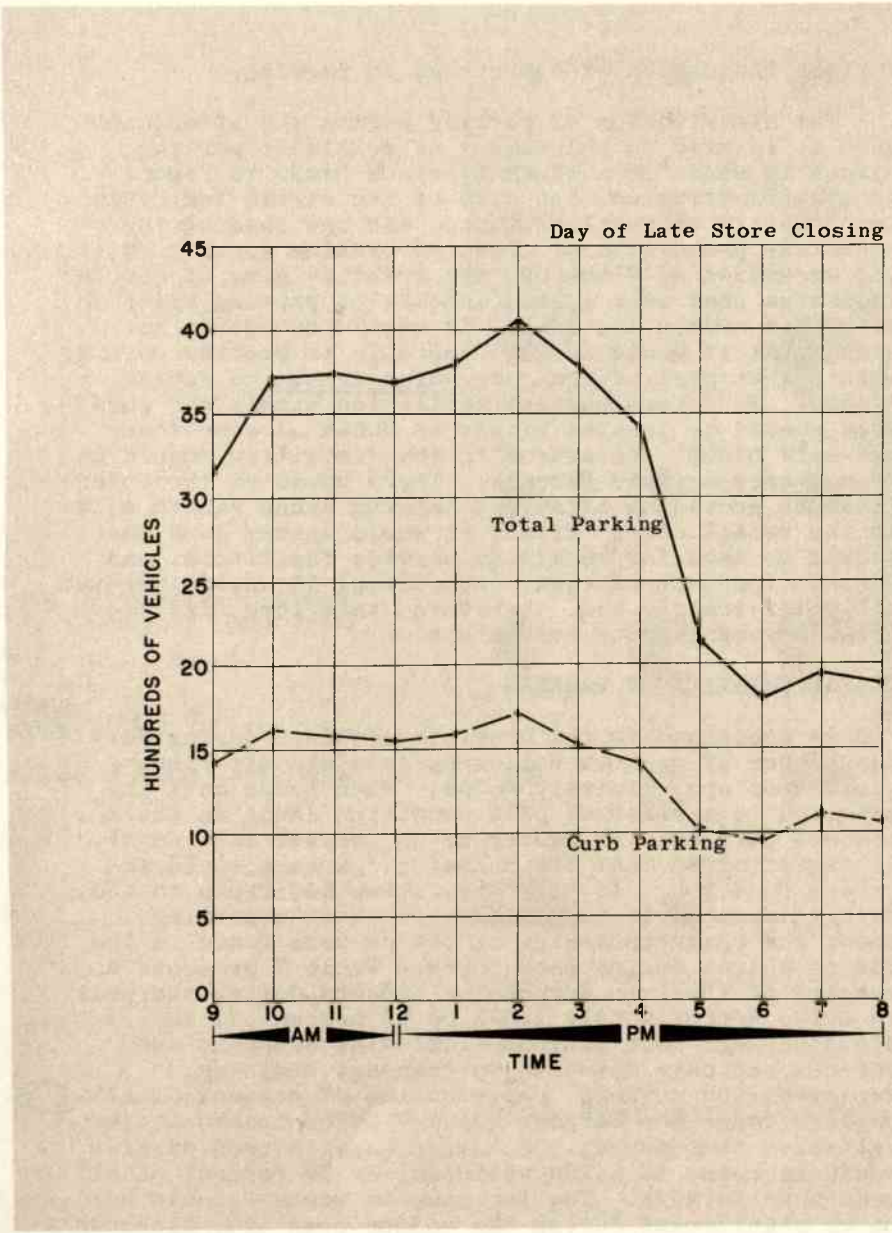


FIGURE 3 **Accumulation of Parked Vehicles**

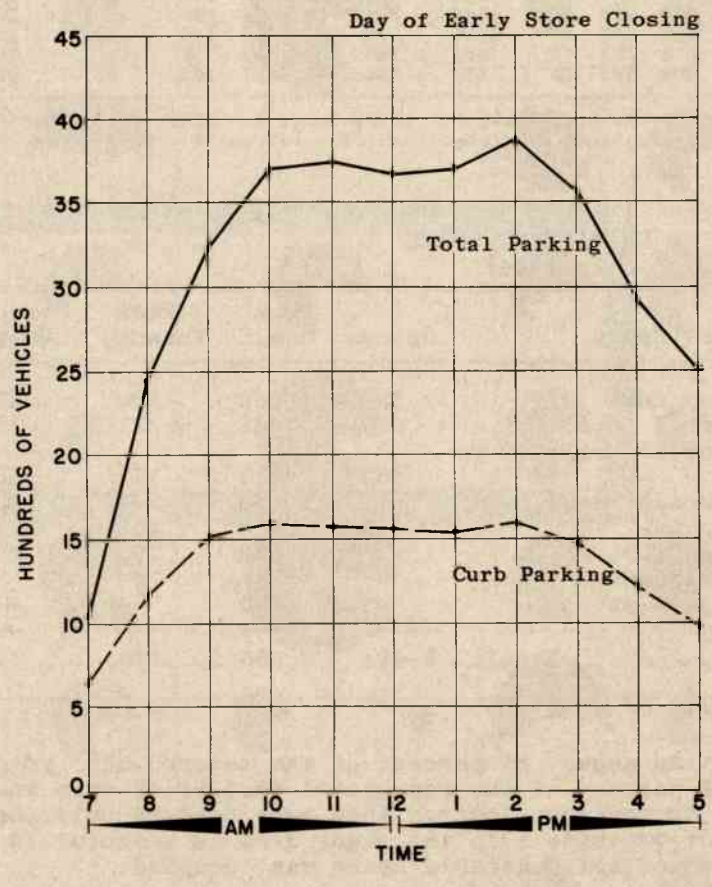

Day of Early Store Closing
HUNDREDS OF VEHICLES
45
40
35
30
25
20
15
10
5
0
Total Parking
Curb Parking
7
8
9
10
11
12
1
2
3
4
5
AM
PM
TIME

Table 5
ACCUMULATION OF VEHICLES BY TYPE FACILITY (SATURDAY)

Time	MC	FC	A	Total Onstreet	CV	C	P	E	Total Offstreet	Total
10-11	810	244	68	1122	135	610	381	237	1363	2485
11-12	886	291	72	1249	193	711	431	204	1539	2788
12- 1	886	290	68	1244	207	729	344	225	1505	2749
1- 2	805	208	83	1096	173	617	376	140	1306	2402
2- 3	734	185	75	994	146	584	310	132	1172	2166
3- 4	608	164	59	831	124	493	217	123	957	1788

Note: MC - Metered Curb; FC - Free Curb; A - Alley; CV - Commercial Validation; C - Commercial; P - Patron; E - Employee.

Table 6
PEAK USE OF PARKING SPACE
(Weekday, July, 1964)

Type of Space	Spaces	Peak Use	Peak Vacancy	Percent Usage
Metered Curb	1,330	1,080	250	81
Unmetered Curb	639	468	171	73
Commercial Validation Lot	462	291	171	63
Commercial Facility	1,411	1,155	256	82
Patron Lot	879	418	461	48
Employee Lot	763	503	260	66
Miscellaneous (alley, etc.)	-	140	-	-
Total:	5,484	4,055	1,569	74

July. As shown, 81 percent of the metered curb space and 82 percent of the commercial facilities were in use. By contrast, patron lots were used to only one-half of capacity. In the study area as a whole, 74 percent of all available space was occupied.

It should be noted that a significant number of cars were parked in the alleys. Typically, between 110 and 140 persons parked in alleys during the hours of greatest parking demand between 9:00 A.M. and 3:00 P.M. This high use of alley space for parking is a

further indication of a shortage in parking.

The distribution of parking during the afternoon peak as related to the number of available parking spaces is shown on a block-by-block basis in Figure 4. In the illustration, the size of the circle indicates the quantity of available space and the shading represents the proportion of occupied parking space. With the exception of Block 52, the relative size of circles indicates that only a small amount of parking space is available within the core. It should be noted, however, that it would not be desirable to provide parking within that part of the core which fronts on Wabash Avenue. No future parking facilities within the core area should be located closer to Wabash Avenue than one-half block, and access to the facilities should be from Cherry or Ohio Streets. There would be two objections to providing offstreet parking along Wabash within the retail core: first, it would occupy land that should be used for retail or service facilities, and, second, (perhaps of equal importance) it would increase vehicular traffic and, therefore, interfere with pedestrian movement along the street.

CHARACTERISTICS OF PARKERS

As discussed in the previous section, during July the number of parkers builds up to a mid-afternoon maximum of approximately 4,055. When these data are adjusted to a seasonal peak condition (such as would precede Christmas or Easter or on special sale days), it is estimated that the number of parkers would increase to 4,860. In planning future additions to the parking system, it is essential to know something about the characteristics of the parkers found in the downtown area during peak hours. Table 7 presents a summary of the trip purpose of parkers during the peak. In July, approximately 1,073,or 26 percent of the 4,055 parkers, were patrons--including shoppers and persons who came downtown to transact business. Employees and workers, representing 62 percent of all parkers, were the largest group. By contrast, it is estimated that during the season peak, patron parking would increase to 1,730 vehicles, or 36 percent of all peak-hour parkers. The increase in workers would not be as significant during the season peak and, although

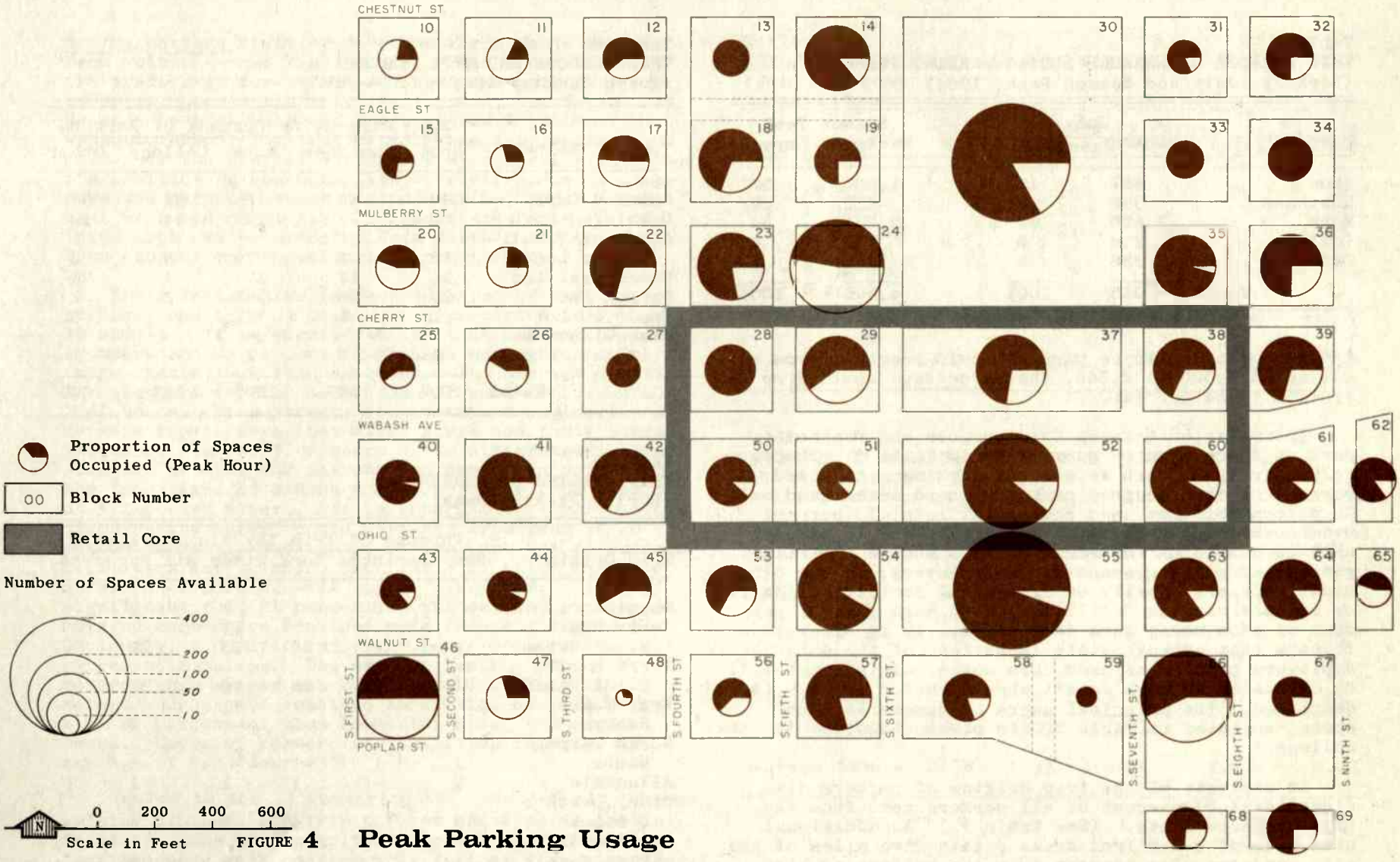


FIGURE 4 **Peak Parking Usage**

Table 7
TRIP PURPOSE OF PARKERS DURING PARKING PEAK
(Weekday, July and Season Peak, 1964)

Purpose	July Parkers	July Percent	Season Peak Parkers	Season Peak Percent
Shop	687	17	1,300	27
Business	386	9	430	9
Work	2,520	62	2,645	54
College	226	6	235	5
Other	236	6	250	5
Total:	4,055	100%	4,860	100%

the number of employee parkers would increase from an estimated 2,520 to 2,645, the percentage would drop from 62 to 54 percent.

The relation between trip purpose and type of parking space used is summarized in Table 8. Shoppers rely heavily on curb meters for parking. As noted, 46 percent of the shoppers parked at curb meters and only 20 percent of them used commercial lots; 13 percent used commercial validation facilities and 16 percent used patron lots. Business parkers showed a similar pattern of parking space use. Employees, on the other hand, rely principally on commercial facilities (daily or monthly parking facilities) with more than 37 percent of them using such facilities. It is significant to note that approximately 16 percent of the downtown employees park in metered curb space. This point will be discussed in more detail when duration of stay is described. The principal users of unmetered curb space, as noted in Table 8, are persons destined to the college.

An analysis of the trip origins of parkers discloses that 59 percent of all parkers come from the City of Terre Haute. (See Table 9.) An additional nine percent comes from areas within five miles of the city, another nine percent from the balance of Vigo County, and 17 percent from points beyond Vigo County. It is significant to note that although 17 percent of all parkers come from beyond Vigo County, one-quarter

Table 8
TRIP PURPOSE AND TYPE PARKING
(July, Weekday Afternoon Peak)

Type of Space	Trip Purpose by Percent of Parkers: Shop	Business	Work	College	Other
Metered Curb	46	44	16	34	51
Unmetered Curb	3	7	12	44	12
Commercial Validation Lot	13	5	7	8	3
Commercial Lot	20	17	37	1	20
Patron Lot	16	20	9	2	7
Employee Lot	1	4	17	11	6
Miscellaneous (alley, etc.)	1	3	2	-	1
Total:	100%	100%	100%	100%	100%

Table 9
TRIP ORIGINS OF PARKERS
(During Parking Peak)

Trip Origin	Purpose of Trip (by % of Parkers): Shop	Business	Work	Other	All Purposes
Downtown	-	6	1	7	2
Terre Haute N. of Wabash	14	20	24	28	22
Terre Haute S. of Wabash	31	31	38	30	35
West Terre Haute	8	4	5	-	4
North Terre Haute	1	1	-	-	-
Allendale	2	-	1	1	1
Other, within 5 miles	3	4	4	2	4
Balance of Vigo County	11	6	9	14	9
Beyond Vigo County	25	24	12	12	17
Unknown	5	4	6	6	6
Total:	100%	100%	100%	100%	100%

of the patrons visiting downtown Terre Haute drive from points beyond Vigo County. This indicates that the trade area for retail and business patronage extends far beyond the city limits, and that Terre Haute's Central Business District has a substantial economic base. The implications are also worthy of note. If the Central Business District can strengthen its position by enhancing its attractiveness to shoppers and persons making business trips, it is likely that with the completion of Interstate Route 70, the trade area can be extended even further and the downtown economy correspondingly strengthened.

The relationships between duration of stay, trip purpose, and type of parking are presented in Tables 10 and 11. It is significant that 28 percent of the shoppers and 30 percent of persons making business trips remain less than one hour. The average duration for shoppers is 2.30 hours and for business parkers, 2.41 hours. By contrast, 78 percent of employee parkers remain more than eight hours and their average length of stay is 8.09 hours. The differences between duration of stay for patrons and employees points up the importance of discouraging employees from parking at prime curb meters. It is apparent that one employee "feeding the meter" could displace from four to 10 patron parkers. The impact of employee use of metered facilities may be noted from Table 11 which compares duration of parking with type of facility. It is significant that 21 percent of the persons parking in metered curb space remained more than eight hours. Obviously, a duration of eight hours or more does not represent a patron. The average length of stay for metered curb spaces was 3.38 hours. Parkers at unmetered curb space remained an average of 7.11 hours, with 69 percent of them remaining more than eight hours. Users of commercial facilities remained an average of 7.23 hours.

Tables 12 and 13 summarize the relationship between walking distance and trip purpose and type of parking facility. The most significant point in Table 12 is that shoppers walk considerably further than employees from parking to destination. The average shopper walks 615 feet after parking, whereas the average employee walks only 436 feet. Table 13 summarizes

Table 10
DURATION OF PARKING AND TRIP PURPOSE
(July, Weekday)

Duration	Trip Purpose by Percent of Parkers				
	Shop	Business	Work	College	Other
0 -1/2 hour	6	10	1	-	8
1/2- 1 hour	22	20	-	6	24
1 - 2 hours	31	27	1	8	18
2 - 4 hours	28	31	5	31	33
4 - 8 hours	12	6	15	19	4
Over 8 hours	1	6	78	36	13
Total:	100%	100%	100%	100%	100%
Average (hours)	2.30	2.41	8.09	5.45	2.87

Table 11
DURATION OF PARKING AND TYPE OF PARKING FACILITY
(July, Weekday)

Duration	Metered Curb	Free Curb	Commercial Validation	Commer-cial Lot	Patron Lot
0 -1/2 hour	6	2	2	1	3
1/2- 1 hour	17	6	2	3	9
1 - 2 hours	20	4	16	2	17
2 - 4 hours	27	10	13	10	13
4 - 8 hours	9	9	20	22	7
Over 8 hours	21	69	47	62	51
Total:	100%	100%	100%	100%	100%
Average (hours)	3.38	7.11	6.08	7.23	5.73

Table 12
AVERAGE WALKING DISTANCE BY TRIP PURPOSE

Distance Walked	Trip Purpose by Percent of Parkers				
	Shop	Business	Work	College	Other
100 feet or less	14	32	21	8	23
100- 500 feet	35	43	49	28	40
500- 700 feet	17	9	12	24	11
700-1000 feet	14	6	9	24	13
1000-1500 feet	13	7	7	3	5
Over 1500 feet	7	3	2	13	8
Total:	100%	100%	100%	100%	100%
Average (feet)	615	401	436	685	510

Table 13
AVERAGE WALKING DISTANCE BY TYPE OF PARKING FACILITY

Distance Walked	Metered Curb	Free Curb	Commercial Validation	Commercial Lot	Patron Lot	Employee Lot
100 feet or less	16	19	12	10	42	41
100- 500 feet	49	38	53	53	30	26
500-1000 feet	24	24	30	28	15	24
1000-1500 feet	9	12	3	8	4	6
Over 1500 feet	2	7	2	1	9	3
Total:	100%	100%	100%	100%	100%	100%
Average (feet)	487	575	466	495	439	422

walking distances by type of parking facility. The shortest average walking distances were reported by persons using patron and employee lots where the averages were, respectively, 439 and 422 feet. This is explained by the fact that, for the most part, such lots are located close to the building being served. The average walking distance from metered curb to destination for all purposes of trips combined was 487 feet, with 49 percent of the persons being able to park within 100 to 500 feet of their destination at a curb meter.

CURB PARKING REGULATIONS

A review of existing curb parking regulations on streets within the Central Business District was

carried out as part of this and the companion study dealing with traffic movements. There were two reasons for making this review: first, to determine what parking prohibitions, if any, were justified to improve traffic movement, and, second, to determine if modifications could strengthen the parking function of the streets. It is sometimes stated that the primary function of a street is to move traffic and that all on-street parking should be prohibited. A general statement such as this, however, neglects to consider the function of streets.

The street system of a community may be classified by function:

1. Freeways or expressways. These are limited access facilities designed to move large volumes of traffic. They have multiple-lane facilities with each direction of travel separated by a median. Access to the abutting land-uses is not permitted. Parking is not permitted.

2. Major or arterial streets. The function is to move heavy volumes of traffic from one part of the community to another. Generally, direct access to abutting land-uses is permitted but the interests of through-traffic movement are paramount and, therefore, curb parking is frequently restricted depending upon conditions.

3. Collector street. A street designed to carry traffic from local or residential streets to major streets. Another function is to serve the abutting land-uses, and unrestricted access is generally permitted. The volumes of traffic using collector streets are generally moderate and curb parking frequently is permitted.

4. Local or residential streets. The primary function is to provide access to the abutting land-uses and not to carry high volumes of traffic. Parking is permitted along local streets provided the width is adequate to permit parking and at least one moving lane in each direction.

Whether or not parking should be permitted on a particular street depends on two factors: its function and its capacity or traffic-carrying ability. Within this framework, it is perfectly logical to permit curb parking on certain streets within the Central Business District. Indeed, it is quite desirable to permit curb parking on streets not intended to carry through traffic and, if the curb parking is properly controlled, such streets will function efficiently.

In the companion report dealing with traffic movement, a plan was presented for a street system designed to fit the needs of the area. Contained in the plan was the concept for diverting heavy volumes of through traffic away from Wabash Avenue so it could function as a local street and, therefore, better serve its abutting land-uses. The suggested plan involves parking prohibitions along Ohio and Cherry Streets. For the next few years, it is anticipated that rush-hour parking prohibitions will be adequate to meet traffic movement requirements. Details of the parking prohibitions are presented in the companion report. In brief, however, parking would be prohibited during the peak hours along the right-hand side of each one-way street throughout most of the downtown area.

The City of Terre Haute has already instituted peak-hour parking prohibitions to more effectively move traffic along streets such as Sixth. The additional peak-hour prohibitions along Cherry and Ohio will be similar. Observance of the peak-hour prohibitions along Sixth is quite good and it is anticipated that good conformity to the prohibition along the one-way pair may be expected.

Other than those peak-hour parking prohibitions described, no additional downtown parking restrictions are necessary at the present time.

However, it is suggested that enforcement be increased to discourage those few parkers who are disobeying existing parking regulations. The 1,375[1]

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[1] There are 1,330 curb meters in the study area and 45 meters just east of the study area.

curb parking meters within and adjacent to the study area are enforced by three meter maids. In order to increase enforcement for this number of meters, it would be worthwhile to employ two additional meter maids. The suggested increase in enforcement personnel would more nearly match desirable standards that have been successfully employed in other communities.

Two types of curb parking regulations are disobeyed by a few motorists because it is impossible for the present level of enforcement to detect all such violations. The violations include parking at expired meters and in no-parking zones such as areas adjacent to fire hydrants and at bus stops.

A current practice which should be discouraged is the "feeding of meters" by employees within and adjacent to the retail core. During the survey period, employees used 26 percent of the prime curb meters. Many "fed the meters" and remained far beyond the one-hour and two-hour time limits that have been established for these meters. As noted in the previous section, the average employee remained 8.09 hours whereas the average shopper remained only 2.30 hours. Therefore, it is apparent that, on the average, each employee who overstays the time limit deprives approximately four shoppers of a convenient place to park. In view of the fact that the prime curb meters should be available for use by shoppers and others making short trips to the area, it is recommended that the ordinance controlling use of one- and two-hour meters be revised to prohibit meter feeding. Modification of the ordinance and enforcement techniques such as chalk-marking tires can do a great deal to eliminate this undesirable practice and as a consequence can open up an estimated 70 convenient curb meter spaces for patrons and other short-term parkers. When it is considered that the cost to develop equally convenient offstreet parking space in the core would approximate $3,000 per space, the advantages of opening up 70 such spaces at virtually no cost becomes apparent.

Parking regulations controlling the use of free and metered curb space in the fringe area of downtown are considered adequate at the present time and, therefore, no additional recommendations are made. As shown

in Figure 1, most of the curb spaces along Walnut and Mulberry, as well as some areas adjacent to these two streets, are controlled with three-hour meters for which the charge is 3-1/3 cents per hour, or 10 cents for the three-hour period. Generally speaking, beyond the three-hour meters, curb space is available for long-term parking at no charge. There are 639 unmetered curb spaces in the study area and, on a typical day in July, just under 500 of these spaces are occupied between approximately 8:00 A.M. and 4:00 P.M. The principal users of this type of space are persons going to Indiana State College, employees of the downtown area, and persons making miscellaneous trips to the area--generally outside of the retail core. In future years, as additional outlying offstreet space may be developed for long-term parkers--such as may be developed in the Wiley School site--it will be possible through enforced short-term parking regulations to displace these parkers from the free curb space into such facilities.

PARKING FINANCES PAST AND PRESENT

The annual gross revenue produced by the 1,375 curb meters has amounted to approximately $90,000 for the past two years. As shown in Table 14, gross revenues over the past 15 years have fluctuated from a high of approximately $124,000 to the present level.

It appears that the decline in gross revenues can be attributed to two factors. The first, and probably the more important, is the need for additional enforcement. As discussed in the previous section, a number of vehicles park at meters without depositing coins. If the recommendations contained in the previous paragraphs are implemented, it is believed that the increased enforcement can remedy this problem to a large extent. A second possible factor contributing to the decline in curb meter revenues is a slight reduction in the number of persons visiting downtown Terre Haute. There is evidence, however, that the reduction in curb meter revenues over the past few years does not correspond to an equivalent reduction in parkers. Proof of this is found by comparing data gathered in the current study with data reported in the 1960 CBD study. The 1960 study reported that there were some 1,370 commercial spaces serving downtown

Table 14
PAST TRENDS IN GROSS PARKING METER REVENUE

Year	Gross Parking Meter Revenue
1950	$116,151
1951	117,939
1952	124,123
1953	118,999
1954	117,208
1955	113,037
1956	113,853
1957	104,698
1958	106,925
1959	96,046
1960	94,755
1961	100,348
1962	98,317
1963	89,441
1964	88,000(1)

(1) Estimate based on first seven months.

Terre Haute. During the summer of 1964, it was found that there were 1,873 commercial spaces, or an increase of 503 spaces. It is a fact that private operators of commercial facilities do not supply more space than can be productively used. Therefore, it must be concluded that there is a substantially greater demand for parking space in 1964 than there was in 1960.

The potential additional revenue that could be expected from increased enforcement would help pay the cost of adding to the staff of meter maids. When these potential savings are added to the potential benefits that can be expected by opening up approximately 70 convenient curb spaces for short-term parkers, it is apparent that the present enforcement level is costing the city far more than the actual salary costs of the recommended additions to the staff.

Curb parking revenues fluctuate from month to month in a manner similar to retail sales. Table 15 summarizes the monthly variation in curb parking revenues

Table 15
MONTHLY FLUCTUATION IN PARKING METER REVENUES

Month	1962 Percent	1963 Percent
January	7.1	8.4
February	7.2	7.0
March	8.8	7.1
April	9.2	8.8
May	9.3	9.4
June	7.8	8.9
July	8.9	9.2
August	8.9	8.3
September	7.7	8.2
October	9.3	9.4
November	8.0	7.2
December	7.8	8.1
Total:	100.0	100.0

during 1962 and 1963. The monthly fluctuation in curb parking revenues does not reflect seasonal peaks as accurately as do downtown retail sales because the most convenient curb parking meters are well-used most of the time and, therefore, cannot be used significantly more during peak seasons. Prime curb meters are used to 85 to 100 percent of their capacity throughout most of the days of the year.

Over past years, revenue produced by the curb meters has been used for maintenance and operation of the parking system, the purchase of new meters, and for the payment of the cost of traffic control on streets where the parking meters are in use. The disposition and use of parking meter funds for these purposes is authorized by state statutes. Table 16 summarizes the disbursement of parking meter funds for the year 1963, which was typical of recent years.

VALIDATION

A few years ago, a "park and shop" validation program began operation in downtown Terre Haute. Initially, approximately 70 business establishments and seven parking facilities participated in the

Table 16
DISBURSEMENT OF PARKING METER FUNDS, 1963

Salaries and Wages, Regular	$ 21,400
Salaries and Wages, Temporary	2,300
Electric Current	9,800
Service Contract	49,000
General Supplies	3,800
Motor Equipment	3,500
Traffic Signs	2,700
Meter Repairs and Parts	1,900
Miscellaneous	600
New Meters	18,300
Total Disbursements:	$113,300

program. Some of the larger retailers felt that they were paying a disproportionate share of the cost of the program and withdrew.

At the present time, 15 business establishments are "park and shop" members. Present members include four department stores, two variety stores, four clothing and shoe stores, a savings association, and four specialty stores. As shown in Figure 2 and Table 1, there are five parking facilities, with a total of 462 spaces, participating in the program.

During 1963, stamps representing 15,837 vehicle-hours of parking were redeemed. Based on a 300-day year, this represents an average use by approximately 530 parkers per day.

It is suggested that active measures be pursued to strengthen the validation program. Many benefits can accrue from a successful validation program for downtown Terre Haute. Perhaps the most important benefit is in building the image of free parking in the minds of patrons. The image of free parking for patrons coupled with efficient access to, and circulation within, the downtown area can do a great deal to enhance its attractiveness. In turn, this can stimulate additional travel to the area and improve the retail position of the district.

3

PARKING NEEDS

FACTORS AFFECTING FUTURE PARKING NEEDS

THE NUMBER of parking spaces required to serve downtown Terre Haute in future years will depend upon the level of economic activity in the area and the travel mode used by persons going to the area. In the 1960 central business district study prepared for Terre Haute by a consultant, it was concluded that some of the CBD potential was unrealized and that it would be feasible for CBD sales to increase from 30 to 50 percent during the next 20 years. Whether or not an increase of this magnitude can be realized will depend upon many factors, including the level of economic activity that can be supported by the population of the trade area, the distribution of future retail facilities, and the relative strength of the Central Business District.

Because of the relatively broad economic base supporting metropolitan Terre Haute, it appears probable that the area will enjoy continued growth during future years. It is not a simple matter to forecast specific locations of the expanding retail and service functions that will serve this probable increase. One of the products of the forthcoming Metropolitan Area Transportation Study will be a land-use projection which can help identify the probable future role of the Central Business District. It appears reasonable, however, to assume that if active measures are taken

to enhance the attractiveness of the Central Business District, including an improved traffic and parking system, that the general level of retail activity will increase during future years. In recent years, however, there has been little indication that the relative economic level of downtown Terre Haute was increasing.

The implementation of specific measures to improve the Central Business District with respect to retail functions, land-uses, traffic access, and parking are expected to stabilize conditions as a minimum and could very well lead to an increased level of economic activity. As noted in the companion report on traffic improvement, even if the level of economic activity remains stable in the downtown area, the number of vehicles driven to the area would increase over future years because of the general trend toward increased ownership and use of the automobile.

Inasmuch as a specific economic base study is not available at the present time to use in predicting economic activity for the CBD, it appears that a prudent course of action would be one that develops a parking system that is adequate to handle existing parking needs and provides a degree of flexibility so the system may be readily expanded as future needs demonstrate.

DESTINATIONS OF PARKERS

Parking is a service or supporting function for the Central Business District. Therefore, an efficient parking system should be attractive and located to minimize walking distances. Modifying this general principle are the qualifications that parking facilities should not occupy land that could be used to better advantage for retail or office development, nor should they be located so that access to them generates conflict with pedestrians of the downtown area.

The design of a parking system that meets the needs of the Central Business District requires information on the principle pedestrian destinations. In the present study, a detailed analysis was made to determine the walking destination (by trip purpose) of parkers who were in the downtown area during the mid-afternoon parking peak. A summary of this analysis is shown in Figure 5. It will be noted that walking destinations were concentrated in the retail core, with the maximum number in the block containing the pedestrian arcade. Approximately 606 persons reported walking to this block and an additional 404 to the block directly across the street. It should be noted that the numbers shown in Figure 5 represent walking destinations and do not necessarily indicate where the motorist parked. The parking supply in the retail core is far below the demand for parking, and it would have been impossible for the stated number of motorists to have parked in the given block.

Table 17 presents a summary (by trip purpose) of the number of parkers represented in Figure 5. Approximately half of the 4,055 persons who parked in downtown Terre Haute during the mid-afternoon peak in July walked to the core after parking. As shown, 655 of these persons were patrons who visited the core to shop or transact business and 1,374 of them were there to work or for miscellaneous purposes.

It was pointed out in a previous section that July represents a period of sub-average retail activity and that if the July conditions were adjusted to represent a seasonal peak, the number of parkers during the mid-afternoon parking peak would increase from approximately

Table 17
PROPORTION OF PARKERS DESTINED TO RETAIL CORE

Purpose	Core	Total	Percent
Shop	501	687	73
Business	154	386	40
Work and Other	1,374	2,982	46
Total:	2,029	4,055	50

4,055 to 4,860 (see Table 7). The basis for making this adjustment is shown in Table 18 which summarizes the monthly fluctuations in retail sales for the Central Business District. Information was supplied by 20 selected downtown stores in order to evaluate the effect of seasonal variations on parking in the Central Business District.

It should be pointed out that if the information shown in Figure 5 were adjusted for season, the numbers shown in each block would increase, but that the general pattern would remain the same. In the following section, which evaluates present parking needs, adjustments are made to compensate for the seasonal factor.

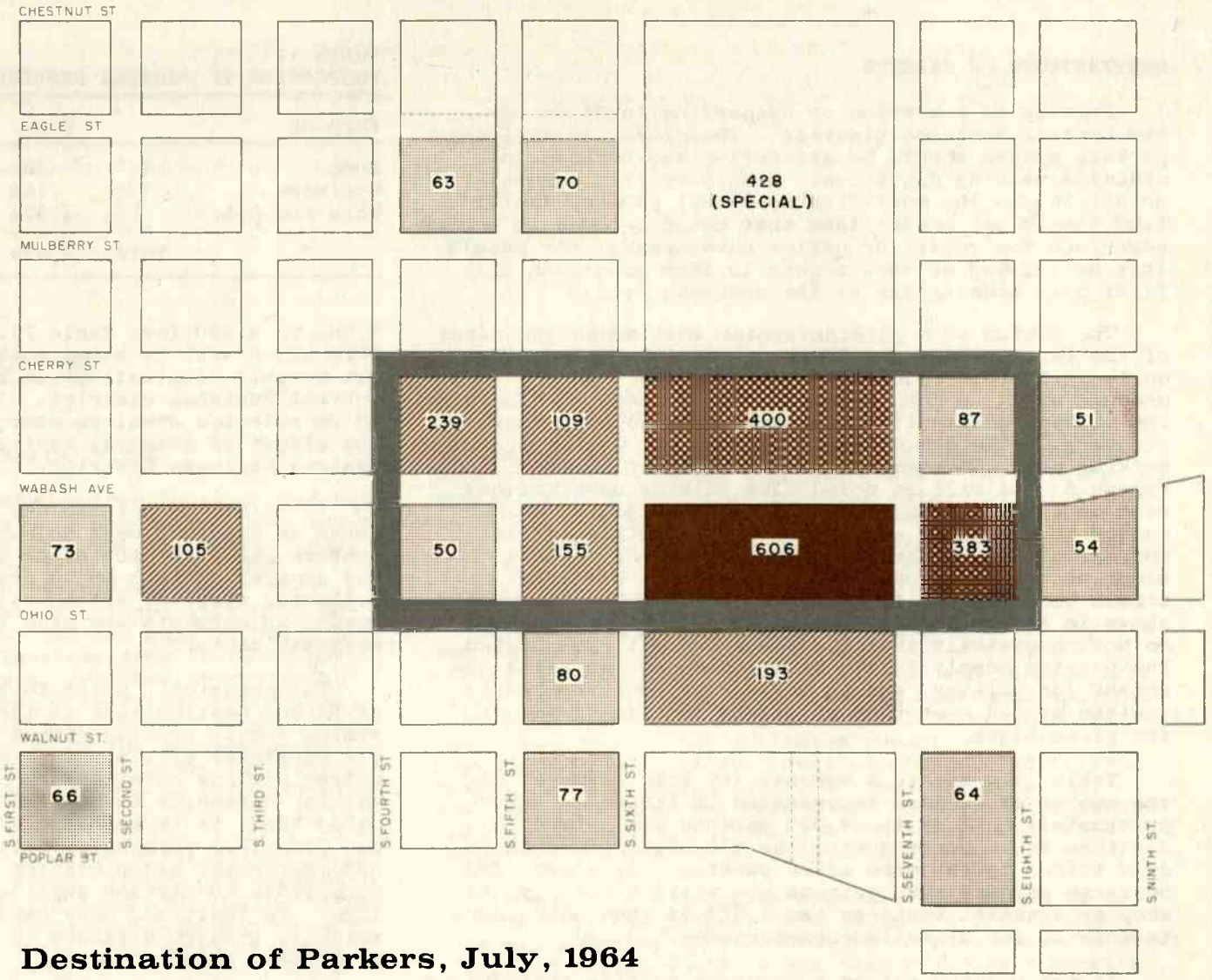
The principal point to be noted from the pattern of parker destinations is that an effective parking system should provide patron parking facilities around the perimeter of the retail core. The location of patron parking outside this perimeter will increase walking distances beyond a desirable level. On the other hand, it is reasonable to concentrate employee and long-term parking facilities outside the retail core perimeter since greater walking distances are acceptable to persons parking for longer periods of time. In addition, many employees prefer to walk a slightly greater distance in order to obtain parking at a lower cost.

PARKING NEEDS

In order to evaluate the adequacy of the present parking system and to quantify parking shortages, an


More than 600
300 to 600
100 to 299
50 to 99
Under 50
Retail Core
0
200
400
600
Scale in Feet

FIGURE 5



Destination of Parkers, July, 1964

Table 18
MONTHLY FLUCTUATION IN RETAIL SALES

Month	Percent Annual Retail Sales[1]
January	7.0
February	5.8
March	6.7
April	7.9
May	8.7
June	8.4
July	7.7
August	8.0
September	7.5
October	8.9
November	8.7
December	14.7
	Total: 100.0

[1] Source: Data from 20 selected downtown stores.

analysis was made on a block-by-block basis to compare the quantity of available parking space with the number of parker destinations. Figure 6 presents a summary of this analysis. Six blocks within the Central Business District had a shortage of 20 or more spaces during the mid-afternoon peak in July. Four of these blocks were within the retail core. The block containing the largest shortage, 151 spaces, was located on the south side of Wabash between Sixth and Seventh Streets. The block on the north side of Wabash between Sixth and Seventh had a theoretical shortage of 69 spaces. When the shortages in these two blocks were adjusted to season peak conditions, they increased to 392 spaces in the block south of Wabash and 165 spaces in the block north of Wabash.

In the entire downtown area, the estimated shortage in parking spaces, as of 1964, is placed at 226 in July, 300 during an average season, and 670 during the seasonal peak. These shortages will be increased when the recommended curb parking prohibitions are implemented. When an allowance is made for the potential loss of curb parking space, the estimated shortages

become 246 spaces in July, 330 during an average season, and 710 during the season peak.

The parking shortage figures cited in the previous paragraph relate to a shortage in patron parking. At the present time, there is no severe shortage in employee or long-term parking. This conclusion is based on two findings of the study: the average distances walked by employees from the parking space to destination are quite moderate, averaging 436 feet, and the peak use of parking space available for employee parking is below capacity. For example, employee lots are used to only 63 percent of capacity and unmetered curb space available for unrestricted parking is used to only 77 percent of its capacity. In addition, there are several commercial facilities catering to the all-day parker south of Ohio and north of Cherry that are normally used to only 70 or 85 percent of capacity. It is true, however, that in future years, as the number of employees driving to the downtown area may increase, additional employee and long-term parking facilities will need to be provided. At the present time, however, the critical need is for additional patron parking.

The term "shortage" with respect to patron parking space, as discussed in the previous paragraphs, should be clarified. The shortage is in convenient parking space to serve patron destinations. Enough parking spaces are located outside the retail core to accommodate the 1964 parking demand even during the peak season. However, in order to obtain a parking space, it is necessary for many patrons to park in areas so far distant that walking distances to destinations in the retail core are considered unacceptable. In other words, a patron can find a parking space now if he is willing to walk far enough. By providing the stated number of additional parking spaces, it would be possible for virtually all of the patrons visiting downtown Terre Haute to park within acceptable walking distances of their destinations. The Central Business District would acquire a reputation for adequate parking and this could attract patrons to the area. Although it is not possible to estimate accurately the number of additional patron trips that would be so generated, it is likely that these could be in the range of five to 15 percent within the year following expansion of the parking facilities.

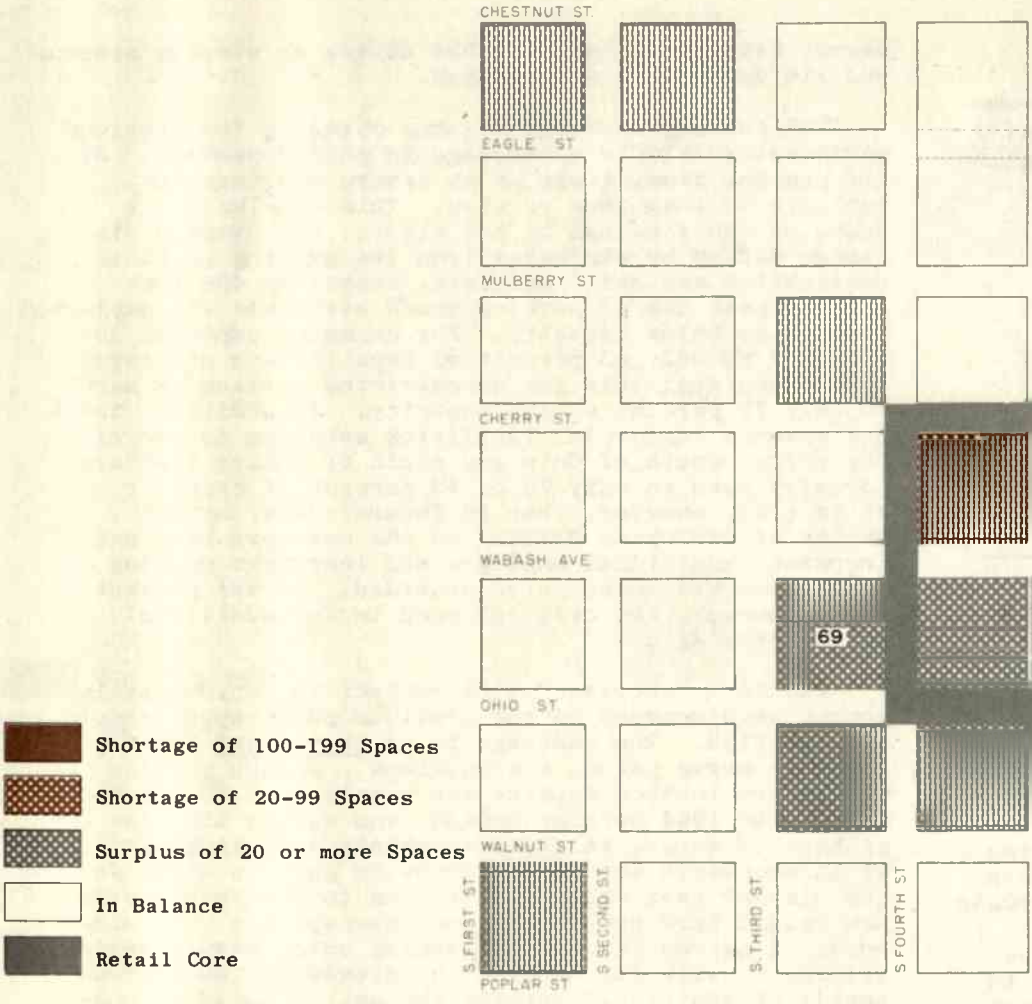
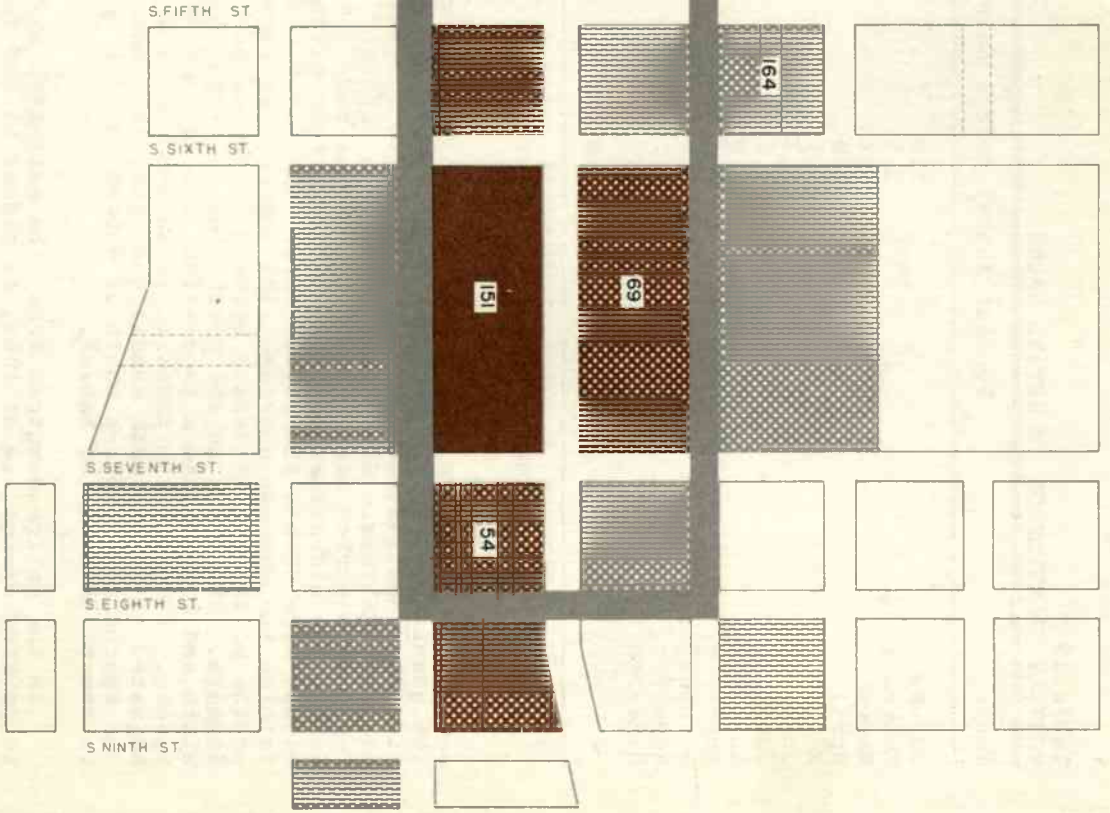


FIGURE 6 **Shortages and Surpluses**


S.FIFTH ST.
S.SIXTH ST.
S.SEVENTH ST.
S.EIGHTH ST.
S.NINTH ST.
164
151
69
54

4

CONCEPT FOR DEVELOPMENT

FORM AND FUNCTION OF THE CENTRAL BUSINESS DISTRICT

THE BASIC purpose of this and the companion study is to strengthen the relative position of Terre Haute's Central Business District. A number of elements must be considered in order to accomplish this objective. The companion study gives primary attention to the development of a traffic system for efficient access to, and circulation within, the downtown area. It also suggests improvements to enhance pedestrian amenities in the area.

Another element affecting the attractiveness of the CBD is its parking system. A parking system that is compatible with the district's traffic circulation and land-use functions can accomplish two purposes: it can serve the requirements of the area efficiently, and it can help achieve desirable changes.

There are certain elements of the present land-use pattern that should be preserved and strengthened. On the other hand, the Central Business District suffers from two major deficiencies which should be corrected through planned changes as soon as possible. One, discussed in detail in the companion report on traffic improvements, relates to the fact that the principal retail street, Wabash Avenue, now carries a high volume of traffic that is not related to the Central Business District. A high priority should be given to correcting this situation. The companion report presents a plan to accomplish this.

A second shortcoming of the district concerns the pattern and distribution of land-uses. The district is spread out over many blocks and is interspersed with land-uses unrelated to retail and office activities. Figure 7 presents a generalized summary of existing land-uses within the study area. Examination of the present pattern verifies that the three major land-uses attracting patrons to the Central Business District--retail, office, and service--are scattered over many blocks. One result of this dispersed pattern is to increase vehicluar circulation as patrons move from one point to another within the downtown area. Ideally, the Central Business District should present a compact pattern so that it would be convenient to walk between retail stores and related service functions.

The eight-block area defined as the retail core and bounded by Cherry, Ohio, Fourth, and Eighth Streets, has the potential of an ideally compact retail unit. Within this area, there exist a number of major retail and service facilities. With minimal modification, the core can become very attractive and thereby materially strengthen the retail position of downtown Terre Haute.

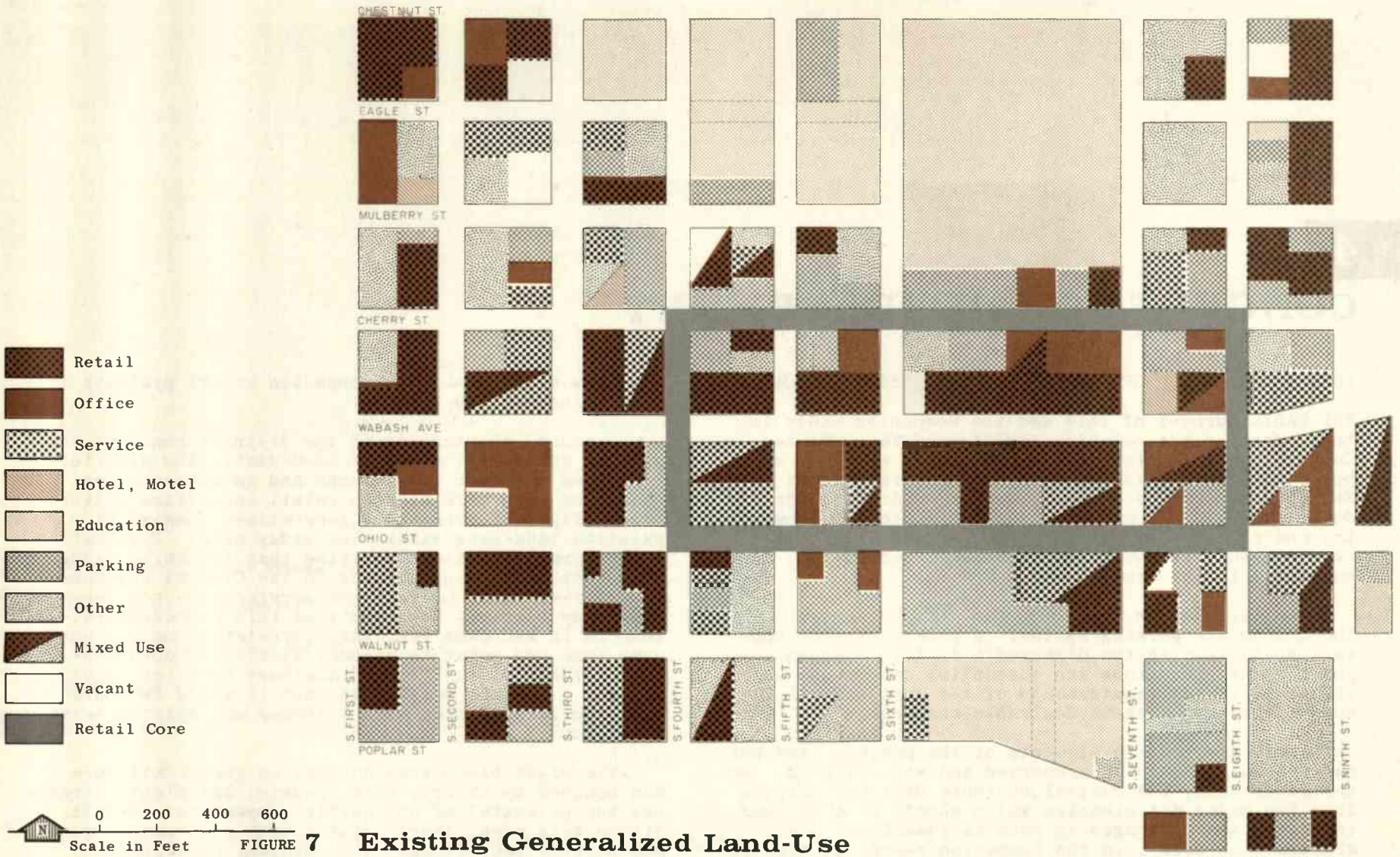


FIGURE 7 **Existing Generalized Land-Use**

Principles to guide future development within the retail core include the following:

1. Removal of through traffic from Wabash Avenue.

2. Discouragement of any land-use along Wabash Avenue which would increase vehicular traffic. Included would be offstreet parking facilities with access from Wabash and drive-in facilities on Wabash.

3. Encouragement of retail, service, and office functions within the core area.

4. Encouragement of new parking to serve the district. Its location should be generally in the area between Cherry and the alley one-half block south, and between Ohio and the alley one-half block north. Access to the parking should be provided from the one-way streets of Cherry and Ohio.

5. Enhancement of pedestrian amenities within the retail core.

CONCEPT FOR DEVELOPMENT

To provide a framework for planning a parking system, a development concept for the downtown area was prepared as part of the study. This concept, shown in Figure 8, embodies the principles outlined in the previous section and is generally consistent with other planning which is being pursued for the Central Business District. The development concept emphasizes amenities within the eight-block retail core where primary emphasis should be given to retail, service, and office land-uses. Surrounding the retail core is an area defined as the central area ring. In subsequent years land-uses designed to support the primary retail core should be encouraged in this ring. Included in this group of supporting land-uses would be parking, principally for employees and other long-term parkers, and service or retail functions that do not require placement in the retail core. Examples of retail functions in this latter category would be automobile accesory stores, food markets, and wholesale activities.

Beyond the central area ring on the north is the area devoted to Indiana State College, and on the south

is an area between Walnut and Poplar which need not be related to the Central Business District. Long-term parking for employees of the area could be provided in the area between Walnut and Poplar, although its somewhat remote location would discourage acceptance for this purpose.

The area lying generally between First and Third Streets from Poplar to Chestnut is the area currently proposed for urban renewal. Although a number of land-use possibilities exist for the urban renewal area, primary retail functions should not be contemplated there since this would tend to dilute and weaken the retail core. The suggested Community Center or Governmental Development is shown between Cherry and Ohio. This development would include the existing City Hall, Vigo County Courthouse, and a new federal building to contain the post office and other federal offices. The governmental project would involve the closing of Wabash Avenue between First and Third Streets from Cherry to Ohio. It would be feasible to close the streets under the access plan recommended in the companion report.

It has also been suggested that a Civic Center might be provided in the two-block area bounded by Cherry, Ohio, Eighth, and Ninth at the east side of the business district. The development concept would be consistent with such a project.

WAYS TO ENHANCE PEDESTRIAN AMENITIES

The third important element in strengthening the Central Business District--following the improvement of traffic circulation and the parking system--is the enhancement of pedestrian amenities. Pedestrian amenities can be improved in two general ways: (1) by indirect measures such as the re-routing of traffic to reduce conflicts with pedestrians and the concentration of land-uses into a compact pattern to reduce walking distances, and (2) by direct measures intended to appeal visually to the pedestrians.

The methods and techniques for achieving indirect pedestrian amenities have been discussed in previous sections of this report and in the companion report. The purpose of this section is to discuss ways and

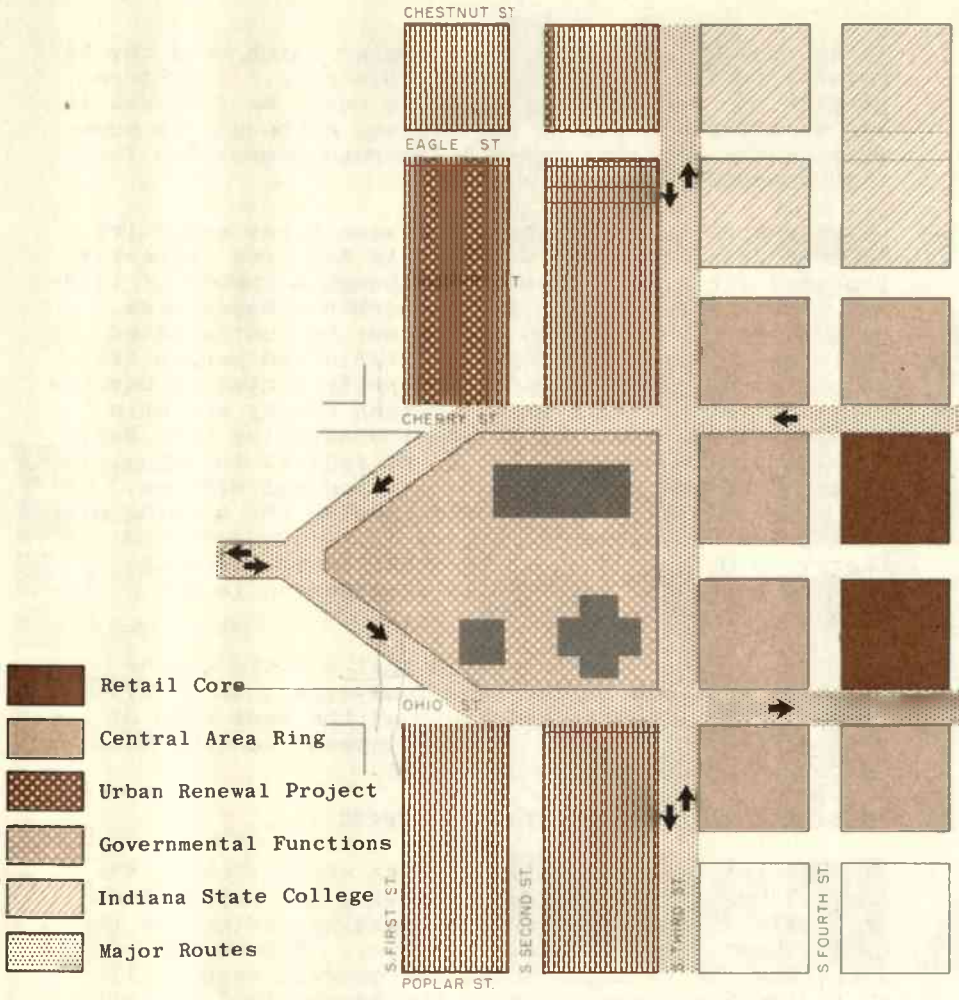
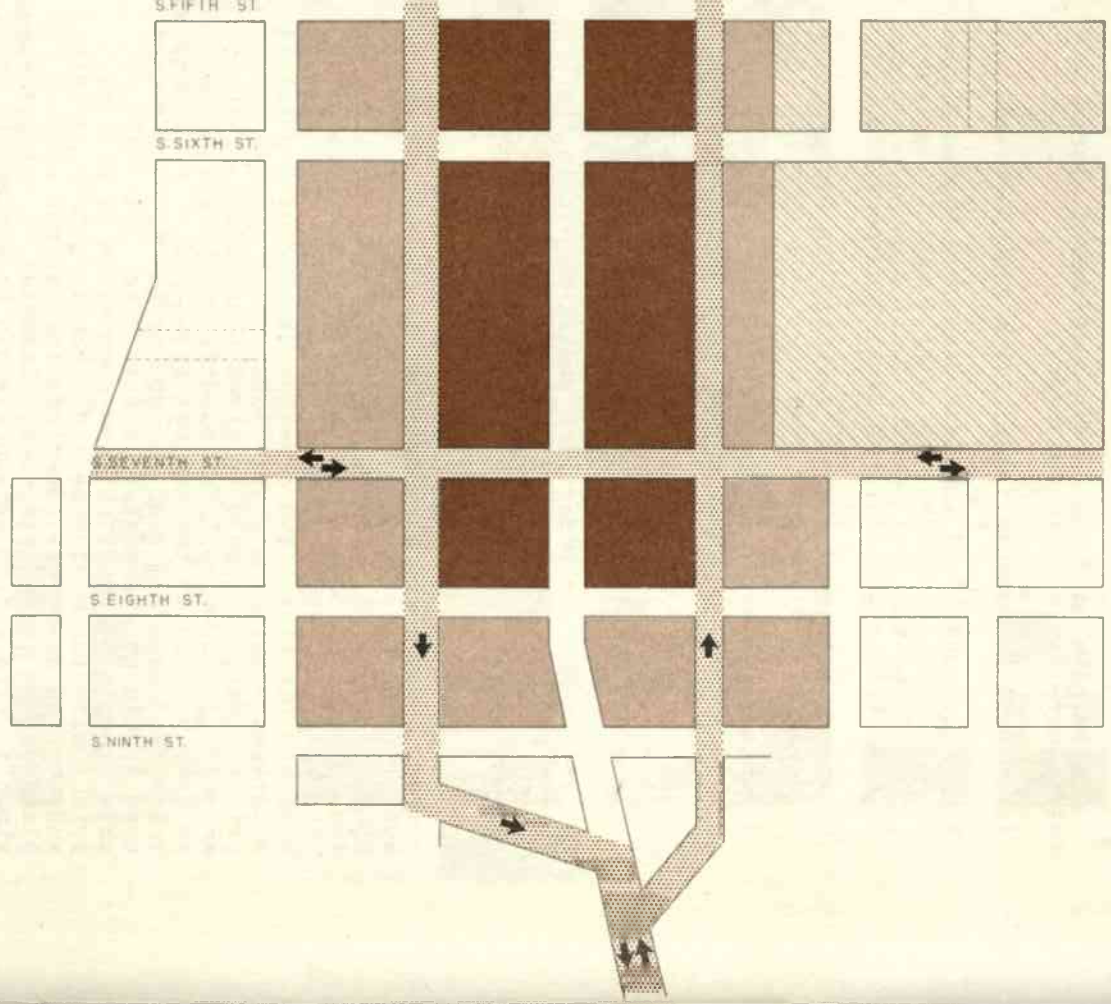


FIGURE 8 Development Concept


S. FIFTH ST.
S. SIXTH ST.
S. SEVENTH ST.
S. EIGHTH ST.
S. NINTH ST.

means to achieve the direct or visual improvements.

Effective action already has been taken by local authorities to improve pedestrian amenities. Notable in this connection is the arcade which has been developed to connect Wabash Avenue with Ohio Street, thereby substantially reducing the walking distance between parking space fronting on Ohio and the primary retail destinations along Wabash.

The basic idea of the arcade is excellent and the existing facility can provide the framework for a truly attractive pedestrian facility in the heart of the retail core. It is suggested that the arcade be improved in the manner shown in Figure 9.

The recommended arcade improvement would include new pavement as shown, the addition of ground cover planting and planters with shrubs or trees, a redesigned newsstand, and a rustic bridge over the transformer grillwork. An opportunity would also exist to construct two attractive display windows in the adjoining business establishments. It is estimated that the cost of the improvements would range between $3,900 and $5,000, as itemized in Table 19. There would be no right-of-way cost involved, since the arcade follows an existing alley right-of-way.

As discussed in the companion report, after the necessary steps have been taken to divert the major flow of traffic from Wabash Avenue and onto Cherry and Ohio, the opportunity will exist to make Wabash Avenue a pedestrian-emphasis street. At that time, since the requirements for traffic movement would be relatively low, it would be entirely feasible to replace the existing parallel parking along the street with angle parking. At the same time, a logical corollary improvement would be crosswalk extensions to reduce the

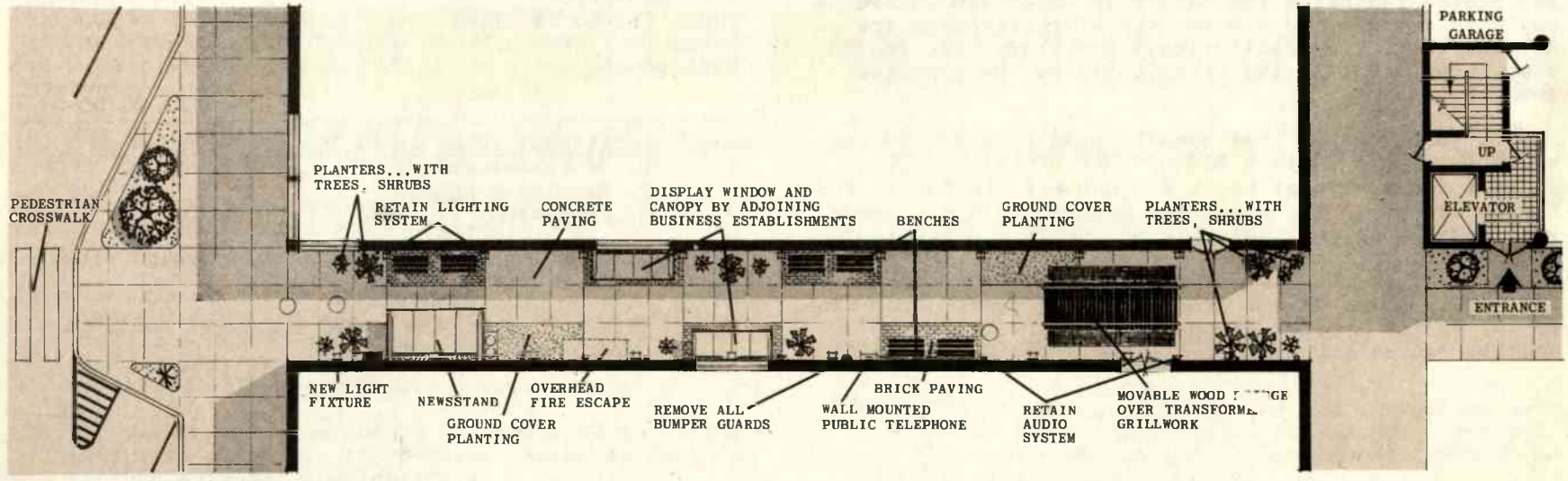
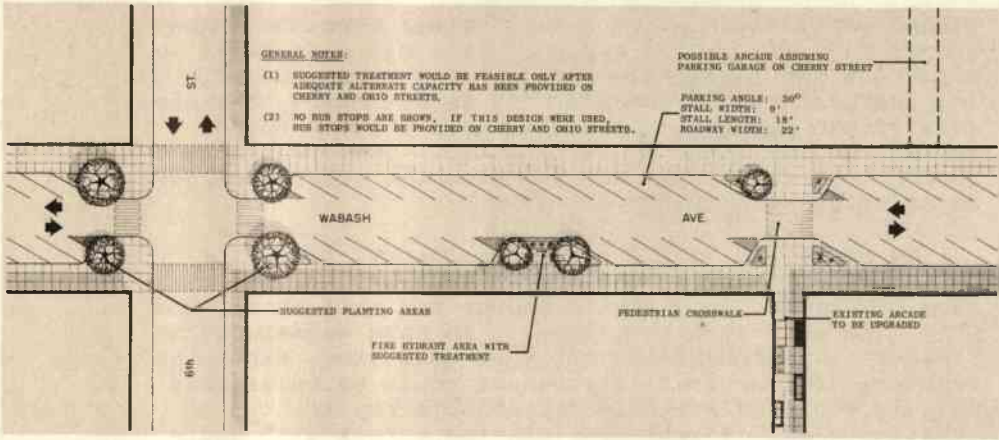


FIGURE 9 **Pedestrian Arcade**



Suggested Ultimate Treatment for Wabash Ave.

distance walked in crossing the street. The accompanying sketch indicates the manner in which Wabash Avenue could be modified to enhance its attractiveness for patrons of the Central Business District. The sketch also shows how planting areas could be incorporated into the design.

It is estimated that Wabash could be modified as shown for approximately $14,000 per 320-ft. block, or at a total cost of about $70,000 between Fourth and Eighth Streets. The suggested design would also provide additional parking space in the most convenient possible location to serve the retail core. It is estimated that the design as shown would increase parking supply along Wabash from Fourth to Eighth from 112 to 151 or 152 metered spaces. The cost to provide equally convenient offstreet space would amount to an

estimated $3,000 per space. Therefore, implementation of the suggested treatment would provide additional parking space valued at approximately $120,000 at a cost of $70,000.

Table 19
ESTIMATED COSTS TO IMPROVE ARCADE
ON SOUTH SIDE OF WABASH

Item	Cost Range
Resurfacing Paving (concrete)	$ 600- 700
Brick Paving	600- 700
Wooden Bridge	200- 300
Benches (6)	400- 600
Large Concrete Planters, 3'-4' diameter (10)	400- 500
Small Concrete Planters, 2'-2'6" diameter (18)	400- 500
Painting Walls	200- 300
Trees, 10' to 14' (10)	900-1100
Shrubs (18)	50- 100
Contingencies	150- 200
Total:	$3900-5000

Note: Additional Items to be Privately Financed
1. Telephone stand.
2. Display windows.
3. Newsstand.

Each of the above items to meet design standards set by city.

Existing light and sound equipment could be retained.

5

ELEMENTS OF A PARKING PROGRAM

PRINCIPLES AND OBJECTIVES

SINCE THE basic objective of a parking program is to strengthen the Central Business District, the program must be carefully coordinated with present and future land-use patterns and be related to a realistic traffic improvement plan.

The following principles should guide the City of Terre Haute in the development of its parking program:

1. The program must possess flexibility so that it may meet present needs and be expanded in the future as additional needs are demonstrated.

2. The parking system should serve the entire Central Business District and, therefore, be designed to provide a balanced system. No single area or retail establishment should be favored at the expense of others within the retail core.

3. The parking program should be developed in conjunction with a traffic improvement scheme so that the two are mutually complementary.

4. The immediate objective of the parking program should be to add enough convenient patron parking space to satisfy the average, and much of the seasonal peak, demand.

5. The new offstreet patron facilities should be designed with generous dimensions to permit self-parking operation.

6. New patron facilities should be located adjacent to, or within, the outer edges of the retail core between Cherry and the alley south of Cherry or between Ohio and the alley north of Ohio, with access from Cherry or Ohio. They should not be located with frontage on, or access from, Wabash Avenue.

7. Between approximately 330 and 600 new, convenient spaces should be contemplated to satisfy parking needs during the average season and to accommodate most of the seasonal peak demand.

8. Preferably, new offstreet parking facilities should be developed by private enterprise.

9. If private enterprise does not act within the near future to develop the needed additional offstreet facilities, then the program should be carried out by municipal action.

ECONOMIC ANALYSIS

It has been pointed out that the supply of convenient parking for patrons should be expanded by approxi-

mately 330 spaces to meet average season needs and by almost 600 spaces to meet most of the peak season requirements. The total number of patron spaces may be supplied from two sources: by making additional curb spaces available and through construction of new offstreet facilities. The least expensive way to provide part of the required space, and one which should be implemented as quickly as possible, is to open up for patron use certain curb meters which are not now available to patrons. In this category would be modification of meter regulations to prohibit "meter feeding" and discourage long-term parkers from usurping the prime meters in the core. It is estimated that this step could immediately open up approximately 70 meters for patron use. During an average day, these 70 metered spaces could accommodate an estimated 300 patron parkers.

Another measure which can be implemented after the major flow of traffic has been diverted from Wabash Avenue onto Cherry and Ohio Streets is the establishment of angle parking along Wabash. This change could provide approximately 40 additional, highly convenient curb parking spaces for patrons of the retail core. The combined effect of implementing the two modifications in curb regulations would be to increase the number of convenient curb spaces available for patrons by approximately 110.

Although the addition of 110 convenient patron spaces could materially strengthen the parking system, it would not completely solve the present problem. An additional 220 to 490 spaces should be provided in offstreet facilities. (This range in offstreet requirements results from subtracting the 110 spaces from the total of 330 to 600 spaces.) Six alternate sites have been investigated as potential locations for new offstreet facilities.(See Figure 10.) Four of the Sites--B, C, D, and E--are within the retail core, Site A is at the northeast corner, and Site F, Wiley School, is located south of the retail core. An initial step in evaluating these sites was a review of the probable acquisition costs. As noted in Table 20, on a square foot basis, the two most expensive properties would be Site B and Site F. In each case, improvements are largely responsible for the high costs.

Table 20
ESTIMATED ACQUISITION COSTS OF ALTERNATE SITES

Site[1]	Dimensions (ft.)	Total Cost	Cost/sq. ft.
A	140 x 318	$ 91,000	$2.05
B	140 x 270	317,000	8.38
C	143 x 138	55,000	2.78
D	141 x 149	52,000	2.46
E	141 x 203	145,000	5.06
F	Irregular	1,353,000	6.42

[1]See Figure 10 for locations of sites.

Based on relative acquisition costs and the relation of their locations to parking needs, the three most promising sites are B, D, and E. The logical development to consider for either Site B or E is a multiple-level parking structure. In each case the estimated land acquisition cost is greater than decking costs and the shortage of space within the trade area of each is greater than the number of spaces that could be provided in a single-level lot. On the other hand, Site D should be developed as a lot.

A preliminary estimate indicated that it would be possible to provide between 300 and 400 spaces in a garage built on either Site B or E, and that a lot on Site D could accommodate between 60 and 80 parked cars. Therefore, approximately 360 to 480 spaces could be developed through a combination of facilities on Sites B and D or E and D. This number of new offstreet spaces would fulfill the requirement of 220 to 490 spaces as discussed previously.

The choice between a program combining the development of Sites B and D or one combining E and D will be controlled to a large extent by the economics of each.

To provide a basis for comparing the relative economics of the alternate parking development programs, the following estimates were prepared after an appropriate parking facility was assumed for each site: capitalized development costs, maintenance and operating costs, and potential revenues. Prior to the present

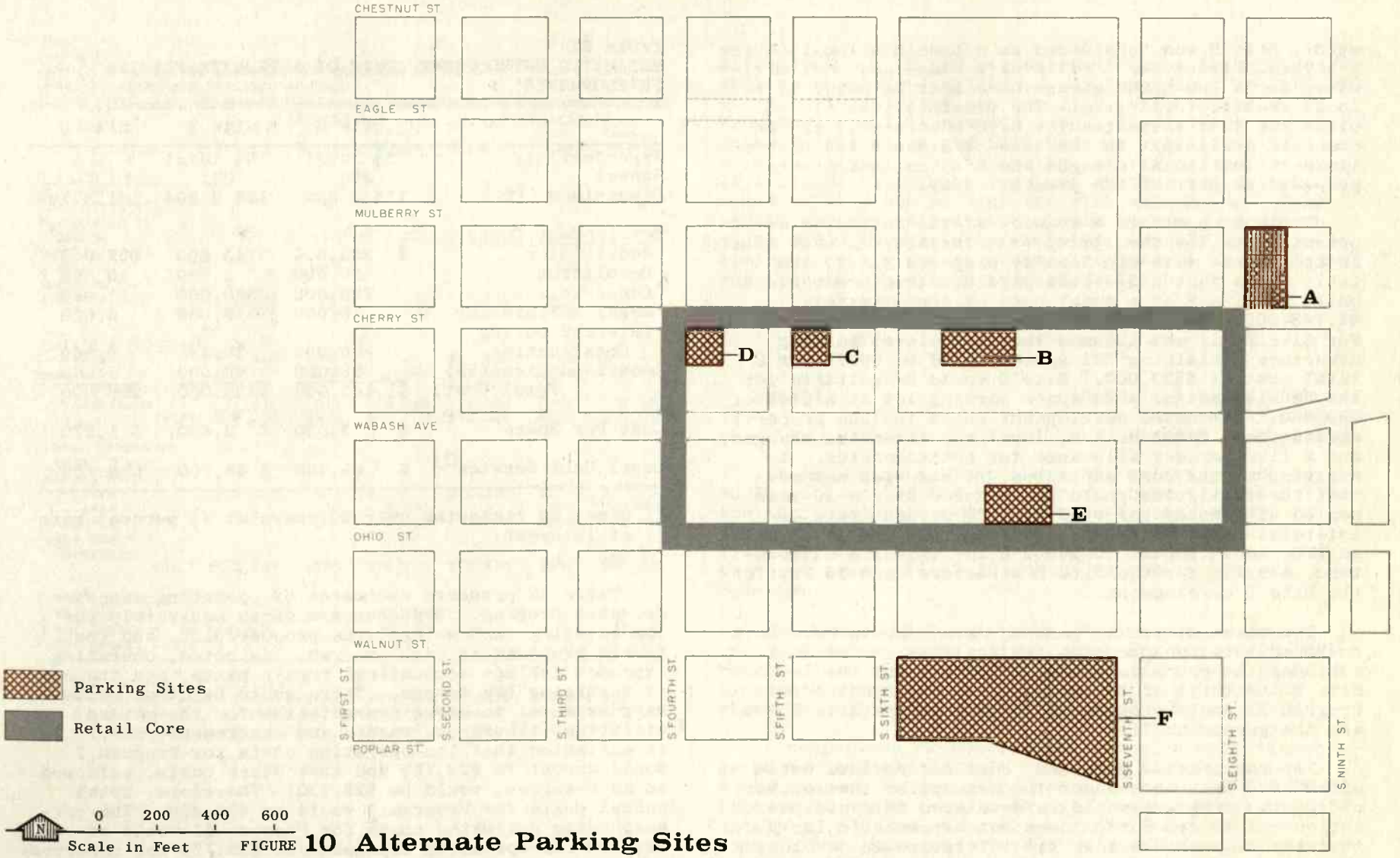


FIGURE 10 **Alternate Parking Sites**

study, Site B was considered as a possible location for a parking structure. Preliminary plans and cost estimates for a 390-space garage have been prepared by a local architectural firm. The previously developed plans and cost estimates for Site B were used in the economic analysis. In the case of Sites E and D, preliminary functional designs and cost estimates were prepared as part of the present study.

Table 21 presents a summary of the estimated development costs for the appropriate facility on each site. In accordance with the locally prepared plans, the table shows that a $5\frac{1}{2}$-level parking structure could be built on Site B at a total cost of approximately $1,143,000. The structure would contain 390 spaces. For Site E, it was assumed that a $4\frac{1}{2}$-level parking structure containing 321 spaces could be built for a total cost of $833,000. Site D would be suitable for the development of a 76-space parking lot at a cost of $96,000. Estimated development costs include property acquisition, construction, legal and financing charges, and a five percent allowance for contingencies. In arriving at the cost estimates, it has been assumed that the facilities could be financed over a 30-year period with money borrowed at a $4\frac{1}{4}$ percent rate of interest. With this type of financing, the level debt service would amount to $68,200 for the Site B structure, $49,700 for the Site E structure, and $5,700 for the Site D development.

The three alternate parking developments have been combined into two programs for analysis. Program I includes the proposed garage on Site E and the lot on Site D. A total of 397 spaces would be constructed. Program II would provide 466 spaces in the Site D lot and the garage on Site B.

For comparative purposes, cost and revenue estimates have been made under the assumption that either of the two programs would be developed by municipal action. This assumption does not necessarily imply that the city should take the initiative in developing the sites. As noted previously, however, if private developers fail to act, then it is recommended that the city do so.

Table 21
ESTIMATED DEVELOPMENT COSTS OF ALTERNATE PARKING DEVELOPMENTS

	Site B	Site E	Site D
Type Facility	5½ level	4½ level	Lot
Spaces	390	321	76
Dimensions (ft.)	118 x 230	128 x 204	141 x 149
Development Costs			
Acquisition	$ 280,000	$145,000	$52,000
Demolition	20,000	5,000	10,000
Construction	720,000	590,000	21,000
Legal & Financing	15,000	15,000	5,000
Interest During Construction	50,000	36,000	4,000
Contingencies (5%)	58,000	42,000	4,000
Total Cost:	$1,143,000	$833,000	$96,000
Cost Per Space	$ 2,930	$ 2,600	$ 1,270
Level Debt Service(1)	$ 68,200	$ 49,700	$ 5,700

(1) Based on financing over 30 years at 4¼ percent rate of interest.

Table 22 presents estimates of operating expenses for each program. Expenses are shown separately for the existing curb meters, the proposed lot, and the garage proposed in each program. As noted, operating expenses include accounting, repair parts, and the cost of servicing the meters. There would be other necessary expenses to cover depreciation for the meters, utilities, insurance, wages, and management costs. It is estimated that the operating costs for Program I would amount to $23,720 and that other costs, referred to as reserves, would be $28,730. Therefore, total annual costs for Program I would be $52,450. The corresponding estimated costs for Program II would be $24,320 for operating expenses and $33,130 for reserves, or a total of $57,450.

The estimated revenues for each program during early years of operation have been prepared for two alternate

Table 22
ESTIMATED OPERATING EXPENSES FOR COMPLETE SYSTEM
ASSUMING ALTERNATE PARKING PROGRAMS

	Program I			Program II		
	Curb Meters	Lot Meters	Garage Spaces	Curb Meters	Lot Meters	Garage Spaces
Parking Spaces						
Proposed Facilities (1)	-	D	E	-	D	B
New Spaces in Garage	-	-	321	-	-	390
New Offstreet Meters	-	76	-	-	76	-
Existing Curb Meters	1,375	-	-	1,375	-	-
Total:	1,375	76	321	1,375	76	390
Operating Expenses						
Accounting	$ 850	$ 40	$ -	$ 850	$ 40	$ -
Repair Parts	3,700	170	1,000	3,700	170	1,000
Maintenance and Collections	14,400	660	2,900	14,400	660	3,500
Total:	$18,950	$870	$ 3,900	$18,950	$870	$ 4,500
Annual Reserves Other Costs						
Depreciation (Meters)	$ 5,100	$230	$ -	$ 5,100	$230	$ -
Utilities	-	500	2,500	-	500	2,500
Insurance	-	200	1,000	-	200	1,200
Wages and Management	-	-	19,200	-	-	23,400
Total:	$ 5,100	$930	$22,700	$ 5,100	$930	$27,100
Total Operating Expense, by Program			$23,720			$24,320
Total Reserves, by Program			28,730			33,130
Total Annual Costs			$52,450			$57,450

(1) Key to Proposed Facilities:
B - Structure on Cherry between Sixth and Seventh, 390 spaces.
D - Surface lot on Cherry at Fourth, 76 spaces.
E - Structure on Ohio between Sixth and Seventh, 321 spaces.

situations: with and without validation being in effect for the proposed facilities. As summarized in Table 23, it is estimated that the annual revenue produced by Program I facilities would amount to $117,000 per year without validation and $139,000 per year if validation were in effect. Corresponding estimates for Program II indicate that gross revenues without validation would be $110,000 or $145,000 with validation. Each of the revenue estimates includes $9,000 from lot D, which would be regulated with 10¢ per hour meters. In arriving at the garage revenue estimates, the following rate schedule has been assumed for each:

0 - 1 hour	$ .20
1 - 2 hours	.40
2 - 4 hours	.80
all day	1.00
monthly	15.00 (a limited number of monthly parkers would be accepted)

It is estimated that the 1,375 existing curb meters would produce $88,000 per year at present rates with the increased enforcement previously discussed. If the parking arrangement along Wabash Avenue were modified to gain another 40 prime curb meters, this could produce an additional $3,000 to $4,000 in gross revenues.

The financial feasibility of each program was examined in two ways: first, assuming that only the revenue from the new facilities would be used to liquidate their cost of development; and, secondly, that the curb meter revenue could be used as needed.

A comparison of the feasibility with self-financing is shown in Table 24. It indicates that Program I would produce an estimated annual surplus of $25.300. Program II would require an annual subsidy of approximately $7,900. Debt coverage ratio (that is, the ratio of net revenues divided by level debt service) would be 2.03 for Program I and 1.42 for Program II. These figures assume only the non-validation revenues produced by the new facilities in computing debt coverage ratios and annual surpluses.

Table 23
ESTIMATED GROSS REVENUE OF PARKING SYSTEM, 1967-1970
WITH AND WITHOUT VALIDATION IN ALTERNATE GARAGES

	Without Validation	With Validation
Program I		
Garage, Site E (1)	$108,000	$130,000
Lot, Site D (2)	9,000	9,000
Curb Meters (3)	88,000	88,000
Total Gross Revenues:	$205,000	$227,000
Program II		
Garage, Site B (1)	$101,000	$136,000
Lot, Site D (2)	9,000	9,000
Curb Meters (3)	88,000	88,000
Total Gross Revenues:	$198,000	$233,000

(1) Based on following rate schedules:
0-1 Hr. = 20¢; 1-2 Hr. = 40¢; 2-4 Hr. = 80¢; all day = $1.00; month = $15 (limited number of monthly parkers would be accepted).
(2) Assumes operation with meters at 10¢ per hour.
(3) Assumes increased enforcement as recommended.

In the event that the city desires to develop either program through municipal action, parking revenue bonds could be used for this purpose. A part of the revenues produced by the existing curb meters could be used to underwrite the parking program and the feasibility would be enhanced as shown in Table 25. The debt coverage ratio for Program I would be increased to 3.27, with an annual net surplus estimated at $89,300, or approximately the same as the gross revenues now produced by curb meters. By comparison, Program II would have an estimated debt coverage ratio of 2.35 and produce annual surpluses estimated at $56,100.

The economic analysis discussed in this section is based on revenue estimates for the years of 1967 through 1970--or the first few years the new facilities may be in operation. The question of revenues in subsequent years should be considered. The 1967-1970 revenue estimates are based on the following assumptions: implementation of immediate recommendations

Table 24
ESTIMATED FINANCIAL FEASIBILITY OF FACILITIES
IN ALTERNATE PARKING PROGRAMS

	Program I	Program II
Proposed Facilities (1)	D, E	B, E
New Offstreet Spaces	397	453
Estimated Gross Revenue (2)	$117,000	$110,000
Operating Expense (3)	4,800	5,400
Net Available for Debt Service	$112,200	$104,600
Level Debt Service (4)	55,400	73,900
Debt Coverage Ratio	2.03	1.42
Net Available for Reserves	$ 56,800	$ 30,700
Required Reserves		
Bond Reserve	7,900	10,600
Reserves for Other Costs (3)	23,600	28,000
Total Required Reserves:	$ 31,500	$ 38,600
Surplus:	$ 25,300	(- $7,900)

(1) Key to Proposed Facilities:
B - Structure on Cherry between Sixth and Seventh, 390 spaces.
D - Surface lot on Cherry at Fourth, 76 spaces.
E - Structure on Ohio between Sixth and Seventh, 321 spaces.
(2) See Table 23 for assumed conditions.
(3) See Table 22 for details; the above figures are rounded to nearest $100.
(4) Based on financing over 30 years at 4¼ percent.

Table 25
ESTIMATED FINANCIAL FEASIBILITY OF COMPLETE SYSTEM INCLUDING ALTERNATE PARKING PROGRAMS

	Program I	Program II
Proposed Facilities (1)	D, E	B, E
New Offstreet Spaces	397	453
Existing Curb Meters	1,375	1,375
Total Metered Space:	1,772	1,828
Estimated Gross Revenue (2)	$205,000	$198,000
Operating Expense (3)	23,700	24,300
Net Available for Debt Service	181,300	173,700
Level Debt Service (4)	55,400	73,900
Debt Coverage Ratio	3.27	2.35
Net Available for Reserves	$125,900	$ 99,800
Required Reserves		
Bond Reserve	$ 7,900	$ 10,600
Reserves for Other Costs (3)	28,700	33,100
Total Required Reserves:	$ 36,600	$ 43,700
Surplus:	$ 89,300	$ 56,100

(1) Key to Proposed Facilities:
B - Structure on Cherry between Sixth and Seventh, 390 spaces.
D - Surface lot on Cherry at Fourth, 76 spaces.
E - Structure on Ohio between Sixth and Seventh, 321 spaces.
(2) See Table 23 for assumed conditions.
(3) See Table 22 for details. The above figures are rounded to nearest $100.
(4) Based on financing over 30 years at 4¼ percent.

in this and the companion report on traffic, including a higher level of enforcement and immediate traffic improvements; and a stabilized level of economic activity in the Central Business District.

In subsequent years, after most of the through traffic has been diverted from Wabash, after the pedestrian arcade has been improved, and after the level of economic activity in downtown Terre Haute has increased, parking revenues can be expected to increase beyond the estimates contained in this report. At the present time, however, it is assumed that parking revenues will remain stable. This is believed to be a conservative assumption. After the forthcoming Metropolitan Transportation Planning Study provides an economic study and forecast of land-use arrangements, it will be possible to refine the revenue estimates made herein.

In summary, the conclusions reached in this section are:

1. Parking Program I is estimated to be entirely feasible and could be developed by either private enterprise or municipal action, using only the non-validation revenues produced by the new offstreet spaces. If the new garage were part of a validation operation, the financial picture becomes even more optimistic.

2. Parking Program II is estimated to require a small annual subsidy--it would not be self-supporting from non-validation revenues. However, if these facilities were part of a validation operation, the project would become self-supporting.

3. Therefore, it would be possible for private enterprise to develop either program if the facilities were to become part of a successful validation operation.

4. The city could develop either program, with or without validation, if curb meter revenues were used to help underwrite the program.

RECOMMENDED DEVELOPMENT

It is recommended that Parking Program I be implemented as soon as practicable, and hopefully within the

next 12 to 18 months. In the meantime, steps should be taken to open up the 70 prime curb meters for exclusive patron use. Program I would provide 397 offstreet spaces in two facilities:

Sloping floor garage. Figure 11 shows the functional plan for the structure that is recommended for Site E on the north side of Ohio between Sixth and Seventh Streets. The garage would accommodate approximately 321 vehicles in 4½ levels. As shown, aisles would be 28 and 32 feet wide with a uniform 8.6-foot stall width. Control would be with ticket dispenser and cashier. (This method would lend itself to a validation program.) One elevator and two stairways should be provided. The structure could be set back from the property line as shown, and its appearance improved with planting. The main pedestrian access point would be in the northwest corner adjacent to the elevator. This point would coincide with the pedestrian arcade leading to Wabash Avenue. Estimated development cost is $1,143,000, or $2,930 per space. The garage would be ideally situated to serve the concentration of parking needs in the core.

Offstreet lot. Figure 12 shows the geometric design for the recommended 76-space lot at the corner of Cherry and Fourth Streets. Aisles would be 24 feet wide and stall width, 8.5 feet. Access would be from existing alleys. Control would be by meters. Planting, as indicated, should be used. The development cost is estimated at $96,000 or $1,270 per space. This lot would provide balance to the parking system by locating needed parking in the west part of the core.

It is recommended that the program be developed by private enterprise. Because of the project's favorable financial outlook, it should be attractive to a private developer. Since all offstreet facilities to date have been developed by private enterprise, there are several reasons why it would be worthwhile to continue this development pattern. The principal argument against public development of offstreet parking is that it may discourage the investment of private risk capital in future years.

On the other hand, there is a clearly demonstrated critical need for additional parking in the immediate

future. Therefore, if private enterprise does not act quickly, it is recommended that the municipality act.

If the city decides to proceed with a municipal parking program, financing should be accomplished with an "open ended" revenue bond issue. The estimated minimum surplus of Program I is $89,300. This amount would be adequate to underwrite additional parity bonds in the amount of approximately $1,100,000, providing the initial bond ordinance contained provisions for such action.

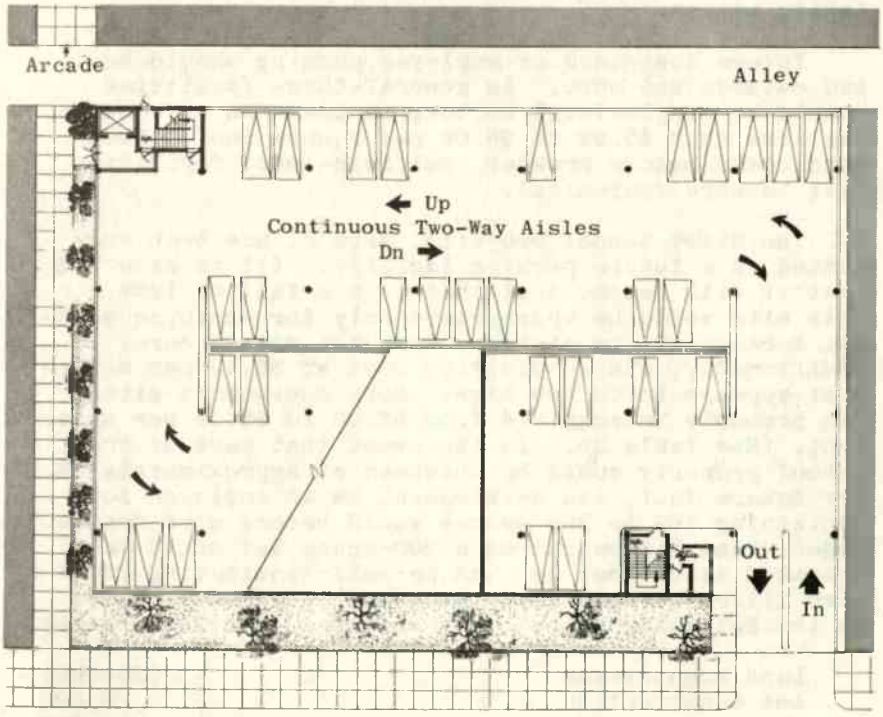
FUTURE PARKING NEEDS

Parking of two types will be needed in the future as the level of economic activity may increase and as the ownership and use of the automobile increases: short-term (or patron) and long-term (or employee). As noted previously, the present need is for patron parking. The approach recommended in this report has been conservative: that is, provide the indicated amount of patron parking to meet present needs and do not provide, at this time, parking facilities that far exceed needs. This approach is recommended for the following reasons:

1. If private enterprise wishes to proceed with the present development, it will require a reasonable return on investment, and this precludes an excess supply.

2. If the program were developed by municipal action, there are two disadvantages in creating an excess supply at present--(1) it would obligate all or most of the municipal revenue bonding power and leave little flexibility or reserve for unforeseen needs during future years, and (2) an excess supply would tend to eliminate the marginal commercial operators and thereby increase the need for municipal parking to maintain an adequate supply.

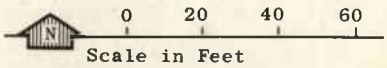
In the future as the need for additional patron parking may be demonstrated, the next project would be a garage on either Site B or E--depending on which one is built now. From that point on, the location and form of additional patron facilities will depend on the development of downtown Terre Haute and,



NOTES:

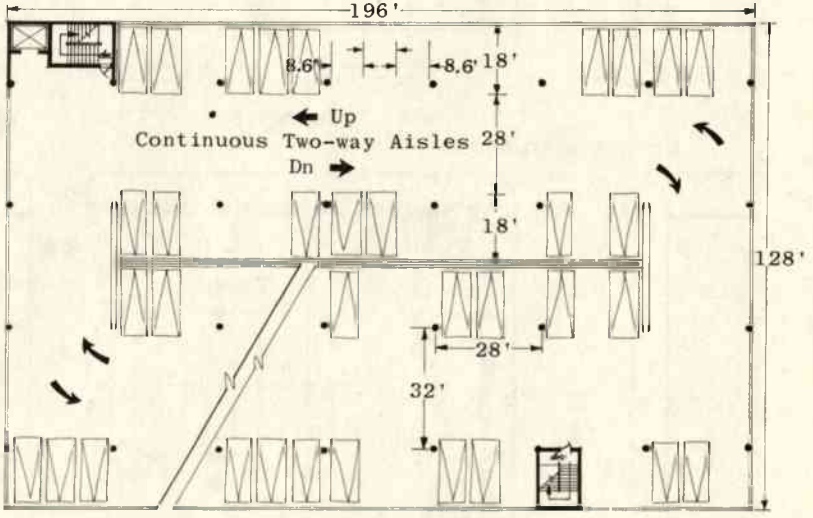
TOTAL CAPACITY: 321 CARS

SLOPE OF FLOOR: 3.2 %

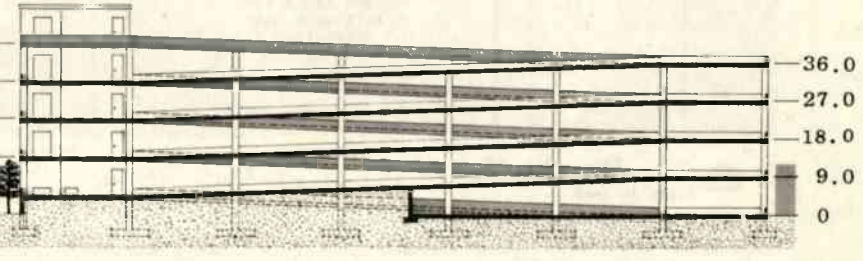


40.5'
31.5'
22.5'
13.5'
4.5'

FIGURE 11 **Functional Plan for Proposed Garage**



TYPICAL UPPER FLOOR PLAN



SECTION

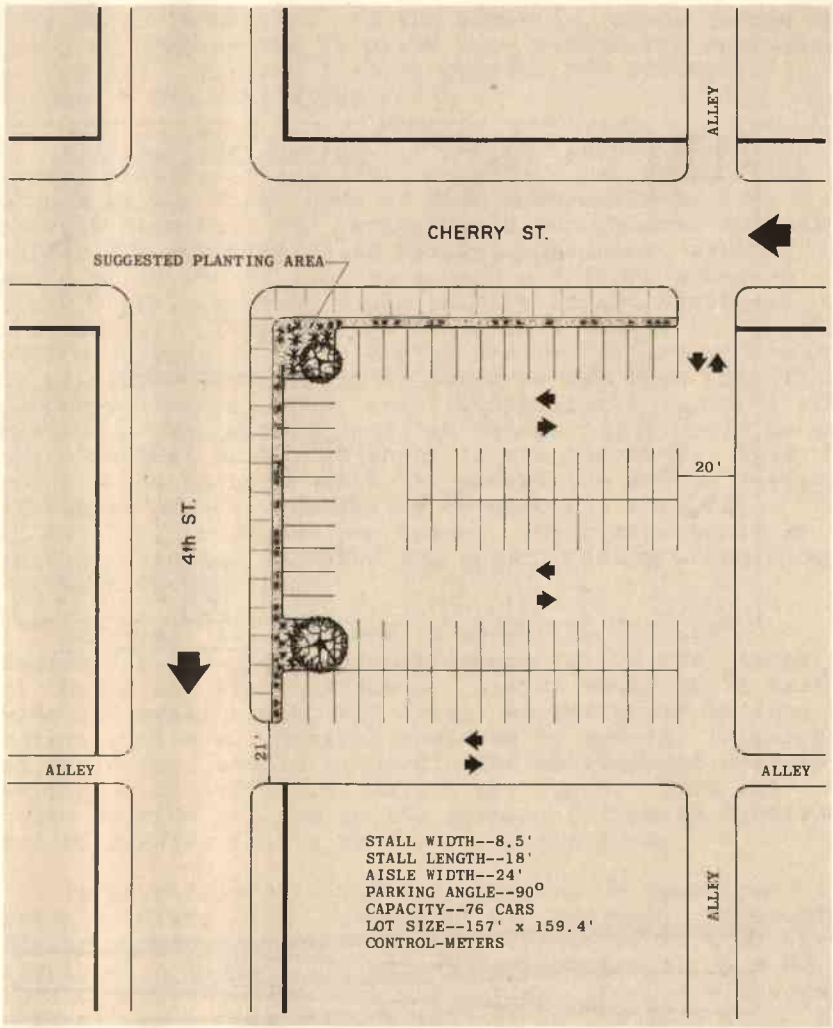


FIGURE 12 **Geometric Design for a Proposed Lot**

therefore, conditions should be reappraised before taking action.

Future long-term or employee parking should be located outside the core. In general these facilities should be single-level as long as land can be acquired for less that $5.00 to $6.00 per square foot. When land costs become greater, multiple-level facilities will be more economical.

The Wiley School property, Site F, has been suggested as a future parking facility. (It is expected that it will become available in the fall of 1967.) This site would be appropriate only for employee parking because of its distance from the retail core. Additionally, its acquisition cost at $6.42 per square foot appears to be too high. More convenient sites can probably be acquired from $2.00 to $5.00 per square foot. (See Table 20.) In the event that part of the school property could be obtained at approximately $3.00 per square foot, its development as an employee lot containing 100 to 200 spaces would become more desirable. Under these circumstances a 200-space lot could be operated at 50¢ per day and be self-liquidating if it were filled for 290 days per year. The fee is based on the following gross cost estimates (for 200 spaces).

Land Acquisition	$200,000
Lot Construction	70,000
Meters	13,000
Total:	$283,000
Level Debt Service (30 yrs., 4¼%):	$ 16,900
Maintenance and Operating Costs	3,500
Gross Revenue for 1.5 Coverage Ratio:	$ 29,000